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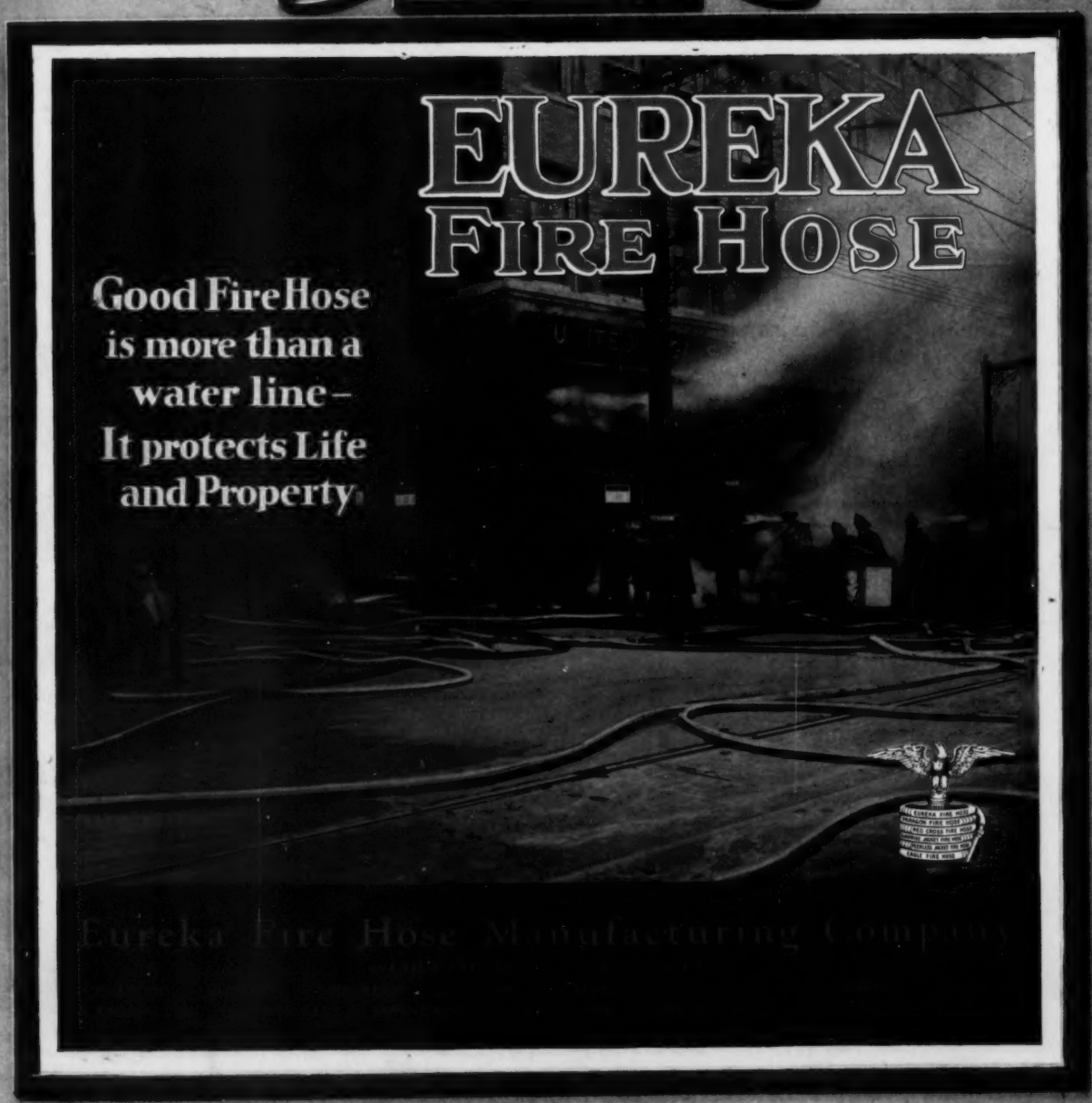
The Journal of the Fire Protection Profession

FEBRUARY 18, 1931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A Consolidation of FIRE AND WATER ENGINEERING AND THE FIRE ENGINEER

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The Publishers

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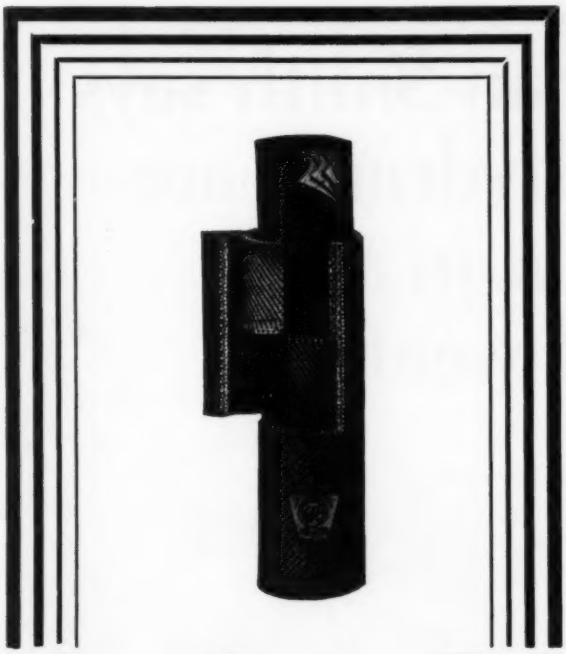

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The Journal of the Fire Protection Profession

VOLUME LXXXIV FEBRUARY 18, 1931 NUMBER 4

The Most Modern Tools and Apparatus Must Be Provided

When the Firemen Go to School

Description of the New Fire Department School Recently Opened in Detroit — Evolutions Can Be Held Regardless of Weather

By WILLIAM JEROME DALY

EVEN though it is minus a bell to hasten wayward scholars on their way, and although there is no policeman on the corner to safeguard the ones seeking an education, as they cross the street, still the building located at Lawton and Warren Streets, in Detroit, is an honest-to-goodness school. No truant officers are necessary nor are letters sent home to the parents of the students, for the men know only by constant study can they hope to keep abreast of the rapid advances made in the profession of fire fighting and fire prevention.

The school embraces four acres of land there is ample ground for outdoor drills.

The building is a two, three, four and six story structure with as many offsets, 78 feet high and 100 x 125 feet in area, of brick and steel throughout. The drill tower is six stories high. The building is quite novel in fire drill structures, as its interior has been constructed to make it possible to hold indoors during inclement weather, any drill or evolution that could be performed out in the open in fair weather. This makes it feasible to conduct the recruit school and fire company drills throughout the entire year. With the recently abandoned east side and west side open-air drill towers, this was not possible.

Every device, appliance, tool, equipment or appurtenance of any kind, known to the fire fighting profession is part of the new school, including low pressure and high pressure hydrants, inside as well as outside the building.

Fire escapes identical to those in use in factory, warehouse or dwelling are part of the new structure for firemen to carry on their practice. A typical revolving door, common in office buildings and department stores, is part of the training, so that firemen will know how to quickly "break" the blades of the door to expedite mass exit and at the same time to facilitate the entry of hose lines from the sidewalk.

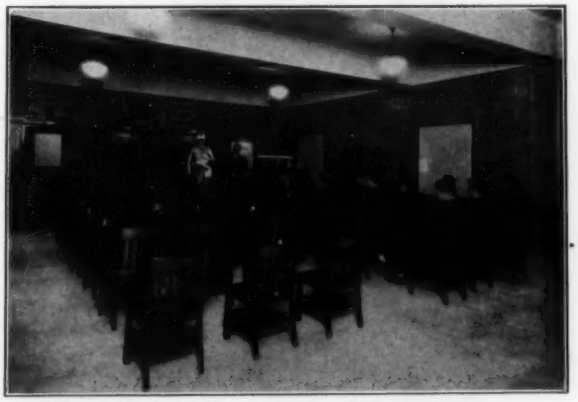
Twenty-Three Standard Evolutions

There are twenty-three standard evolutions in the Detroit Fire Department's drill school, which is under the supervision of Chief Harry J. Callahan, a son of retired Chief Callahan of the Detroit Fire Department. Chief Callahan has with him as assistant instructors Capt. John Keefe of Rescue No. 2 and Capt. Louis Pape of Engine 28. These experienced officers direct the operations of the school and drill the firemen in the rudiments of their job, especially in the latest addition to the department's curriculum—that of spreading waterproof covers over merchandise and household articles. Each ladder company and each rescue company in the Detroit Fire Department carries four waterproof covers with which to salvage property. This latest requirement, although only in effect since last Fall, has resulted in salvaging many thousands of dollars in property values.

Standpipes are part of the equipment. These are six inches in diameter with two and a half inch hose outlets on each floor.

The Smoke Room and Tool Room

A smoke room, equipped with automatic sprinklers which, when fused at a set temperature, will release volumes of water and at the same time automatically transmit an alarm of fire, is one of the important features of the new school.



Firemen are Instructed in How to Stop Flow of Blood

A life size dummy on which is painted the position of the more important organs of the human body, is used to make the school instruction easier.

In order to observe and time these tests and evolutions the sides of the smoke room are transparent. This affords the student observers as well as the veteran smoke eaters the opportunity to record the time, action, characteristics and results of the burning of varied articles, which give off pungent and acrid smoke, fumes or gases. The smoke chamber contains an exhaust fan with which to clear the atmosphere and thereby save time between tests.

The interior of the drill tower is spacious enough to operate at full length a 75-foot aerial ladder. Hose lines can be hoisted and operated within the building. It is possible

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to conduct life-saving tests inside the building with all kinds of ladders. The entire plant is of fire resisting construction, and every possible precaution that should be taken against fire is present by way of example. "The Detroit Fire Department believes in practicing what it preaches," said Chief Stephen J. De May.

In the tool room there is a sample of every implement used in fire fighting in Detroit; also a "dummy" telephone, telegraph and electric light pole showing the arrangement of high tension and low tension lines on the cross-trees. There are typical transformers and circuit breakers. The men are shown how and when to cut a deadly high tensioned wire.

Life-Sized Model for First Aid

A class room for demonstrating first aid on a life-sized model with painted arteries and veins as well as the location of the heart, lungs and other equally important organs, I found to be another interesting feature. Artificial respiration and resuscitation methods are shown with the aid of both blackboard and motion picture screen. A typical fire alarm receiving outfit, identical to that which a fireman uses in the fire stations is set up in a position in the class room, and it affords the class an opportunity to observe and test every phase of the arrangement.

Huge topographical maps, divided into the east and the west sides of the city adorn the wall of this class room; a chart of wig-wag signals is also part of the equipment; a sample board containing nearly a score of different knots and hitches made with rope; a library with a news clipping record of all important fires in the country for the lessons they contain, and a file of FIRE ENGINEERING are also included.

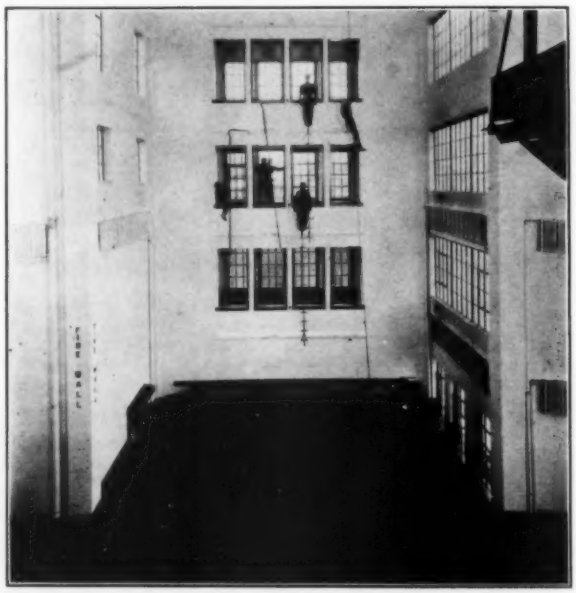
Gas shut-off devices and their location outside of buildings are marked in the ground outside of the school. A scale of ladder heights is marked conspicuously on the inside and the outside of the school, to give the firemen a true picture of just how high on a building a 55-foot ladder will reach when its base must be not more than thirteen feet out from the building. With such a placement, a ladder will only be 52 feet and 9 inches high on the facade of the building.

Signs and Symbols on Buildings Reproduced

Every symbol and sign used on buildings in Detroit is duplicated in the new fire school, such as "E" on a line of windows to indicate elevator shafts. Automatic fire doors and fire wall curtains, a fire-fighting hatch with which to make a quick and inexpensive incision through a floor with a bent cellar pipe or distribution, is also part of the drill. Even a sliding pole to teach the rookie how to turn out, is included in the new building. A cistern for taking suction is in the spacious yard. An ammonia vent indicated by red glass is also shown as it exists on buildings.

Detroit firemen are taking to salvage work with enthusiasm. They practice ten evolutions in salvage alone,

Firemen Receiving Practice in Use of the Life Net



Pompier Ladder Work Carried on Inside of the Building

one of which is the catch-all cover on the floor and then siphon the water out the window. A test of this in my presence proved very successful and entertaining, as well as proving that it can be done.

I believe, the Detroit Fire Department has the "last word" in fire department drill schools.

Firemen Overcome at 2-Alarm Fire

Eleven firemen were injured and damage amounting to approximately $50,000 was caused at a two-alarm fire in the Walk-Over Shoe Company's store on Main street, Bridgeport, Conn., on January 28. Nine of the eleven firemen were overcome by fumes by illuminating gas, which was leaking from a broken pipe in the cellar of the F. W. Woolworth Five and Ten Cent store, which adjoins the shoe establishment. One fireman was injured when he fell from a ladder and another was taken to a hospital suffering from smoke poisoning. Department Plumber William Biebel suffered the most serious injuries when a coffee urn exploded and burned him about the face, both eyes and arms.

The first alarm was received at Headquarters at 6:31 p. m. Engine Companies No. 1, 5 and 9 responded with Truck Companies 1 and 2, Chemical Company No. 1, Chief Thomas F. Burns and Assistant Chiefs Alex S. Mellor and A. T. Platt. Another call was sent which brought out Engine Companies 2, 4 and 3. This box was pulled by a passerby at 6:36 p. m. and at 6:42 p. m. Chief Burns ordered a second alarm signal to be sounded. It was answered by Engine Companies 8, 11 and 12 and Truck Companies 4 and 5. All men on the off-platoon responded on the special signal.

Quick work on the part of the firemen saved the blaze from eating its way into the Arcade Hotel, situated on the second floor above the Walk-Over shoe store. The fire was one of the most stubborn that has occurred in Bridgeport in some time and after a two hours' battle the efforts of the firemen kept the fire in the building where it started. The cause of the blaze is unknown. The recall was sounded at 8:06 p. m.

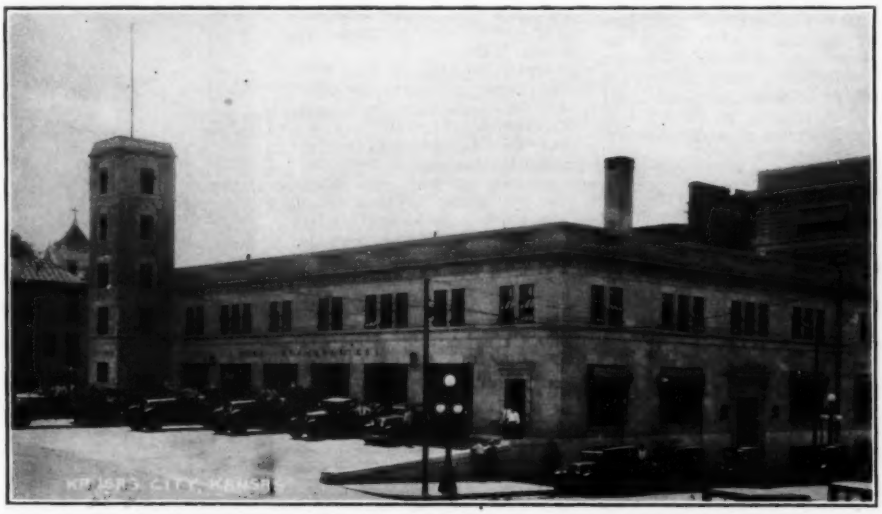
THOMAS F. MAGNER.

Plans for Signal Hill Station—Plans have been approved for the erection of a fire station in Signal Hill, Cal.

Kansas City Keeps Trend with Times

Modern Fire Department Headquarters and a New Station Erected to Better Serve the Municipality — Description of the Two Houses

BACK in the old days of red shirted firemen and the three spirited horses, Tom and Dick and Harry, a municipality considered that it had performed its obligation well when it had provided a building where the apparatus and horses could be housed and where the men could sleep at night while waiting for a call. But that was back in the days when little consideration was given to the beauty of fire department buildings and to conveniences for the firemen. Today things are different.



The Fire Department Headquarters Follows the Same Lines as the City Hall

As an indication of the times, Kansas City, Kan., has two new houses, one a headquarters buildings, that are examples of what is possible in fire station design.

The headquarters building, including equipment, cost $200,000. It is of Italian Renaissance design to harmonize with the adjoining city hall building, and measures 100 by 125 feet. It really serves three purposes—it provides ample space for all equipment and for the men of the headquarters company with space for future growth, it houses the repair shops where all city fire equipment is repaired and maintained, and it provides offices and reviewing rooms for the Kansas State Board of Review where motion pictures for the entire state are edited and approved.

There is a 55-foot approach in front of the station to allow space for apparatus leaving the building without endangering the lives of others.

A five-story drill tower is erected at the corner. It has steel stairways, concrete floors, balconies, outside ladders, inward opening steel casement windows with a special flap wood protective sill for Pompier ladder work. Each floor has a standard 4-inch standpipe connection.

The large apparatus floor is provided with five electrically operated doors and space is provided for seven pieces of apparatus. The telephone and watch room is soundproof and has large double glazed openings so that from it one may have a direct view of the entire apparatus floor. By means of master switches, the telephone operator has control of emergency lights, gongs, warning siren, automatic door openers, either individually or in series, and also the automatic pole hatch doors. An alcove thirty by forty feet is used as a lounging room by the men.

A number of special rooms are at the rear of the apparatus floor. There is a chemical room with acid proof plumbing fixtures and a special trough for filling extinguishers; a store room for shift coats and so forth; another store room for supplies; a toilet and so forth.

Air hose stations with registering automatic control, and battery charging plugs are at the side of each piece of apparatus. Under each motor is a permanent steel plate depressed drip pan with drain. The floor is of red cement, the walls glazed brick wainscot seven feet high with textured plaster walls and ceilings.

The repairs shops occupy an entire side of the building and

Fire Station No. 6 Erected in the Armourdale Section of Kansas City

have a separate entrance. The shop is thirty feet wide and one hundred feet long divided into three departments, auto repair, carpenter shop and a paint shop. Each of the shop machines has an individual electric motor. Exhaust fans are located near the floor line to remove poisonous gases. A 5-ton crane is provided in the auto repair room.

In the basement is a special room where hose is dried and tested. Next to it is a large hose store room where the surplus supply is kept. At the high end of the inclined racks is a powerful type unit heater which blows heated air over the hose to shorten the drying time. Ball bearing rollers make it easier to lower hose from the apparatus floor. The balance of the basement is for the Kansas State Board of Review and for meter rooms and storage.

A corridor divides the second floor into two sections—the public section and the firemen's living section to insure privacy for the men. In the public portion are located the waiting rooms and separate offices for the Chief, Assistant Chief, Night Chief, Captains, Secretary, Deputy State Fire Marshal, and a large meeting room within which also serves as a library and assembly room for fire association meetings.

In the private part is a large dormitory with space for thirty beds and a separate room for surplus bedding. In the dressing and locker room is a two-foot square locker for each man. The lockers are all built in with plastered walls above them. On one side of the dressing room are five lavatories, and from this opens a toilet room with showers. Closets are provided for mops, brooms and towels.

A gymnasium and handball court, and a special class room with blackboards are located on this floor. The station has a kitchen with electric refrigerator, built-in closets, sinks, and a fifteen by thirty-foot dining room.

At present there is a 38 by 41-foot room that is used for recreation purposes, but in the future it will be converted for the city fire alarm system.

The building was designed by Charles E. Keyser, architect. The structure is entirely fireproof. All plastering is textured with wax treatment. All windows are steel, and the interior doors and frames are metal. A built-in incinerator has chutes on each floor for receiving waste material. Ice water is supplied to drinking fountains.

A two-story reinforced concrete station faced with orange colored vitrified brick has been erected in the Armourdale section of the city. The building is 46½ by 68 feet.

There are two double doors, electrically operated, leading from the apparatus floor to the street. Space is provided for a pumper, service truck and an assistant chief's car. A small door on the north side leads to the recreation room. South of this is the oil and grease room protected by a fireproof door. There are large supply rooms for each shift. On the southwest corner, in the rear, is the hose tower with accommodations for 1,500 feet of hose. Each floor has sanitary drinking fountains.

A dormitory with ten beds is located on the second floor with a north and west exposure. East of this is the office of the Assistant Chief and Captains, provided with In-a-Door beds. The dining room is located south of the office. A door leads out to the roof of the oil and grease room which is designed to serve as a roof garden. The kitchen is furnished with an electric refrigerator, gas range with vent, cupboard, incinerator, double sink with drain boards, and so forth.

On the west side, at the top of the stairs is the locker and bath room equipped with fifteen double compartment steel lockers. There are two showers and one bath tub. All piping is tunneled making easy access in case of trouble.

The station was designed by Braecklein and Braecklein and was erected at a cost of $35,000.

Chief Olander Lind and members of the Fire Department are very proud of the two modern department buildings.

Salvage Corps Utilizes First Aid Kit

Four members of a Kansas City, Mo., fire company are lucky that all squad wagons of the Underwriter Fire Patrol in that city carry first-aid kits.

The four firemen entered a house to extinguish a small blaze when a bottle of gasoline near the fire exploded and showered the men with the flaming fluid. They were painfully and severely burned. Men from the patrol took charge and used their kit for the first time. The equipment had only been placed on the salvage trucks earlier in the week by order of the National Bond of Fire Underwriters. The injured men were given first aid and then removed to a hospital for additional treatment.

South Bend, Ind., Wants Pumper—South Bend, Ind., is considering the purchase of a 1,000-gallon pumper.

DEPUTY CHIEF J. J. McELLIGOTT MADE ASSISTANT CHIEF N. Y. F. D.

Fills Post Vacated by the Resignation of Assistant Chief "Smoky" Joe Martin—Has Had Interesting and Noteworthy Fire Record

By WILLIAM JEROME DALY

DEPUTY CHIEF JOHN J. McELLIGOTT of the Marine Division, New York Fire Department, has been designated Assistant Chief of Department to succeed Joseph B. Martin who retired on his own application on a pension last fall.

The designation of Chief McElligott is dated back to October 3, 1930, when he assumed the duties and the responsibilities vacated by Chief Martin.

Asst. Chief J. J. McElligott

Chief McElligott was born the year Assistant Chief Joseph B. Martin became a fireman—1884. He entered the fire department twenty-five years ago and was assigned to H. & L. Co. No. 8 on the lower west side of Manhattan, in a fire district commanded by the man he now succeeds. Five years in that hazardous and busy section gave him many opportunities for service. McElligott soon became an engineer of steamer assigned the lower east side, later going to Engine Co. No. 6 in Liberty Street.

His was the first steam fire engine to arrive in front of the Equitable Building in January, 1912, where for thirty-eight hours continuous duty, his engine pumped water in zero weather at one of the worst fires in the annals of the New York Fire Department. The following January he was promoted to Lieutenant of H. & L. Co. No. 8. He was promoted to Captain in the spring of 1914 and assigned to H. & L. Co. No. 1 in Duane Street.

The following January Chief Kenlon selected Capt. McElligott to organize the first rescue company of the New York Fire Department. McElligott was picked for his general ability as a fire fighter, his education, engineering knowledge, his six-foot physique and his demonstrated qualities as a cool headed commanding officer. As Captain of Rescue Co. No. 1 he made fire department history.

The examination for promotion to battalion chief was held a few weeks too soon to give him the required seniority to enter the competition and he was retarded four years in attaining that rank which he did in 1922, but not until he had served as Captain of the fireboat George B. McClellan. He was advised to take this assignment in 1917 to recuperate from illness. While in command of the fireboat he participated in most of the marine and warehouse fires which occurred during the World War period in and about New York harbor. Between fires he bided his time studying navigation and obtained from the U. S. Government a master pilot's license.

With a background of experience in every branch of the fire service on land and water, the examination for battalion chief found him well equipped. When he received his gold trumpets of that rank, the lower East Side again claimed his services in one of the most hazardous of old-law tenement neighborhoods.

Five years ago he was promoted to Deputy or Division Chief and placed in command of the fireboat fleet with headquarters at the Battery. He was the only division commander with a navigator's license.

Included in the numerous ship, wharf and warehouse fires he handled was the fire and explosion in the hull of the North German Lloyd liner "Muenchen" in February, 1930. It was his leadership at this fire that again attracted the favorable attention of city and department officials as well as marine underwriters and insurance executives. Although explosions in the cargo had settled the vessel in the riverbed

(*Continued on page* 138)

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

ARE you fond of movie thrillers?

The letter reproduced on this page furnishes the basis of a plot that would make the average hair-raiser seem insignificant by comparison. Speeding apparatus! The safety of a company of men at stake! No one to handle the heavy apparatus!

However, many of the chiefs have imagined such situations in order to be prepared should a similar emergency arise. In many departments the man riding beside the regular paid driver is also capable of handling the apparatus, and in others the officer would intuitively reach for the ignition switch, shut off the motor and attempt to guide the equipment until the motor came to a stop.

The letter printed on this page furnishes the basis for the Round Table discussion. In the box on the following page is the problem that will be treated in the next issue. Should you have some comments that you would like to add to the next discussion, you are invited to write to the "Round Table Editor," FIRE ENGINEERING, 24 W. 40th Street, New York, N. Y.

Discussion of the Problem

In the opinion of a number of the chiefs, the men riding on the back of the apparatus are a great deal safer than they would be operating at a fire, and are placed in no more dangerous position than the passengers in a long distance bus who depend upon the lone driver. The replies received follow:

Read This Letter—

To the Editor:

A very important question has come up regarding public safety in modern fire fighting.

In many of our cities and towns firemen must ride on fire apparatus when responding to fires. The front seats are occupied by the regular driver and an officer or captain who is not capable of driving the apparatus, should the driver become suddenly ill or suffer from a dizzy or fainting spell.

Are the men riding on the back of the apparatus properly protected by this arrangement? Are the city or department heads responsible for these conditions by allowing the driver's seat to be protected by only one capable driver?

A. F.

—Then the Discussion

John C. Moran, Chief, Hartford, Conn.: We have no state or local laws governing such cases in operating fire apparatus. In this department while responding to fire alarms an officer sits on the seat with the driver to supervise and direct the driver while proceeding to a fire. Should the driver become ill or incapacited, the officer throws off the ignition switch and applies the brakes at the same time taking the wheel until the apparatus stops and that is all that an experienced driver could do should he be sitting beside the regular driver.

Most of our officers operate motor apparatus and those inexperienced can at least throw off the ignition and handle the steering wheel should anything happen to the driver, after which one of the other men riding on the apparatus replaces the disabled driver. The majority of our men are qualified to operate motor apparatus.

Under our department regulations for operating apparatus for which fire department officials are responsible, I believe the men riding on the back of the apparatus are properly protected, in fact much safer than they frequently are while engaged in their actual work of extinguishing a fire.

Under certain conditions only one man may be in the seat of a pumper responding to an alarm. This may happen if the hose car is out of quarters on a still alarm and a bell alarm may be received. Of course, there are no men on the rear of the pumper under such conditions.

The firemen on the apparatus as well as the public will be properly protected by enforcing safe speed regulations for fire apparatus. For many years in this department the speed requirements for company apparatus were not to exceed 25 miles an hour and in congested sections of the city less speed than that; in other words to have apparatus under full control, especially when about to pass street signal lights set against them. One of the results of this rule is that for one period of several years with a total of 10,000 apparatus runs, only five accidents have been reported and not any of them of a serious nature nor was anyone injured.

Under such regulations I believe the men on the apparatus are just as safe as are the passengers in busses operating on highways everywhere with one driver, or the men formerly riding on the old three-horse drawn steamers with the driver strapped in a seat built for one.

Geo. S. Watson, Chief, Washington, D. C.: The records of this department fail to show a single case of a driver of fire apparatus losing control because of sudden illness. Considering the fact that drivers are usually young men, in the prime of life, and have the benefit of constant attendance of departmental physicians, and the further fact that they are relieved from duty when incapacitated by any illness, however slight, the probability of sudden illness occurring while responding to fires is very remote.

Even though the man riding with the driver is also a qualified driver, it is unlikely that he would be able to prevent an accident, should the driver lose control, through sudden illness, because this loss of control would not be anticipated. By the time one realizes the situation, it would be too late.

The seat alongside of the driver is the logical place for the officer in command to ride. He is responsible for the manner in which the apparatus is handled; he operates warning signals and gives the necessary instructions to the driver regarding routes, speed, etc. This jurisdiction cannot be exercised from any other position on the apparatus.

All possibilities of accidents occurring cannot be guarded against. The protection afforded additional men riding upon apparatus from this specific kind of an accident equals that provided by all passenger vehicles. Yet passenger vehicles frequently operate at higher speeds than fire apparatus.

The city or department heads have taken every precaution against accidents by locating the officer in charge in the most advantageous position. In doing so, they have protected as well as possible all other men riding in other positions on the apparatus.

Richard Lee Smith, Chief, Pittsburgh, Pa.: The assumption that the front seats are occupied by the regular driver and an officer or captain who is not capable of driving the apparatus should the driver become suddenly ill or suffer from a dizzy or fainting spell is incorrect, insofar as our city is concerned. The average man in the department today holds a motor driver's license, particularly the officers. The case described, would only apply in isolated instances and it brings up a point that is far-fetched or so remote that it really does not mean very much.

The "real" officer of the modern fire department is capable of performing all the duties of the positions ranking under him and while said officer probably would not rank as a driver, he should at least know what to do in an emergency of this kind. He would reach over and shut off the motor, throw on the brake, and guide the car safely to a stop.

Where accidents occur in our city, the officer of the company is held responsible and he must answer thereto the same as the motor driver.

This has a tendency to cut down considerably the number of so-called accidents.

J. H. Speddy, Chief, Lakewood, Ohio: It is our custom, and has been since the installation of motor driven apparatus, that the Captain or Lieutenant of each company rides on the front seat with the driver. This was also the custom in the old days of horse-drawn apparatus.

Never in our experience has a driver become dizzy, had a fainting spell or become incapacitated in any manner while driving to or from a fire. The possibilities of this happening are so remote as to be negligible.

The drivers of our apparatus are carefully selected for their temperament, judgment, familiarity and skill in the handling of apparatus. The Captains and Lieutenants are selected from a Civil Service list on account of their superior judgment and knowledge of the business so far as Civil Service examinations will determine.

In our opinion the men riding on the back of apparatus are amply protected for the reason that it is by this method of selection that the officer and the driver are at least the equal if not superior to the other men riding on the apparatus.

City or department heads are responsible for the acts of their subordinates, but on the other hand it must be considered that they have taken every precaution in making these sections and assignments in so far as the law permits.

Another fact might be considered in connection with this question is that today almost every officer and man of a department drives his own automobile and consequently would be more or less familiar with the driving of motor apparatus should an emergency occur.

Wm. L. Ryan, Chief, Dubuque, Iowa: To overcome a situation such as described, we have trained all the men in each company, including officers, to drive and operate the apparatus.

It is a fact that in many departments, including our own, there are men who had become officers before the days of motorization, and before the individual ownership of automobiles by firemen had become so general. After motorization they were too old to become capable drivers. They would suffer an injustice by being reduced in rank because of this fact.

However, we have taken care of this handicap by giving such officers a thorough training in the operation of the apparatus, going so far as to compel the officer to grab the steering wheel with the apparatus at full speed, "after the driver had released same," thereby keeping the apparatus from running into the curb, throwing off the ignition and applying the service brake as far as possible. This training must come gradually, starting the above procedure at speed of five miles per hour, and as the officer becomes more proficient, increasing the speed gradually up to the full rate traveled in responding to alarms. This may seem unusual and foolish to many, but it is one way of clearing up a bad situation. Our department rules require that the officers ride on the seat of the apparatus and direct the driver, and if an officer is active enough for fire duty there is no reason why he could not be active and quick thinking enough to perform in an emergency. All men, however, should be trained in the operation of the apparatus.

Olander Lind, Chief, Kansas City, Kan.: In our department we have thirty-three captains and all except three are capable of operating the apparatus in case of emergency.

With these three captains now learning to operate the apparatus, I feel that we are protecting the men on the rear as well as possible.

I know of no laws or ordinances in our city which would govern this question, although I hardly think that the city or the department head should be held responsible. In my opinion, a captain, being interested in the welfare of his men and apparatus as he should be, will make it his business to learn to operate the apparatus in order to take care of such emergencies.

Wm. O'Neill, Chief, Weehawken, N. J.: The man riding with the driver is not always watching the one in the seat beside him. Should the driver become suddenly ill the first indication would be when the apparatus swerved to one side. Or, possibly, the person may see the driver slump down in his seat. Taking into consideration present day traffic conditions and how much ground a machine would have to cover in a second traveling at the rate of thirty miles an hour, should a case as the one described occur, we must thank a Higher Being that a serious accident does not occur, regardless of whether or not the other front seat passenger can drive.

D. J. Rayburn, Chief, Eldorado, Kan.: All officers of this department must be proficient in handling all the equipment and apparatus in the department and if a regular driver should suddenly become ill the officer would be able to take the wheel and control the apparatus.

I do not think any officer is an efficient one unless he is capable of driving the equipment he has in charge.

Men riding the back of the apparatus have better protection by this arrangement.

Department heads are absolutely responsible for the conditions existing in their department and the efficiency or inefficiency of a fire department especially reflects on the chief of the department.

Perrin Trowbridge, Chief, Redlands, Cal.: In my opinion, the chances of such an accident occurring in this case are very remote in the fire service especially in departments where a high physical standard is required. However, such a condition might occur, but even if there was an officer riding on the front seat with the driver who was capable of handling the apparatus the question arises, would this officer discover the condition of the driver and would he be able to regain control of the apparatus in time to avert an accident? The chances are that he would not in the congested traffic of today. Barring the usual hazards of responding to alarms, I believe that the men riding on the back of apparatus manned by a single driver are just as well protected as they would be riding in a bus or other conveyance along a public highway with only one capable driver in the front seat. I do not believe that city or department heads can be held responsible for these conditions even if an accident of this type should occur.

To my knowledge there are no laws either local or state covering this topic.

T. H. Shipman, Chief, New London, Conn.: The question of who should ride on the front seat of the apparatus with the driver is very important and its merits should be carefully considered.

I believe that the officer in charge of the apparatus should occupy this position for the following reasons:

(a) He is in a position to properly direct the driver

(*Continued on page* 139)

HERE IS THE PROBLEM FOR THE NEXT ISSUE

What merit and demerit system do you follow in your department?

How are the men rewarded for good services performed?

How are the men punished for failure to comply with department regulations or for conduct unbecoming an officer?

With the Editor

Inspection of Residences by Firemen

The inspection of factories and business establishments by members of the uniform force of the Fire Department has become an established practice. It, no doubt, has contributed largely to the reduction of the national fire losses. Not only has such work brought to the notice of the proprietors of such establishments important violations, of which, if left to their own devices, they would not have dreamed, but the work of inspection has also had the added advantage of familiarizing the members of the department—from the Chief down—with the lay-out, special hazards, and general condition of the buildings under their care.

The inspection of residences, however, has proved a much more difficult proposition. To accomplish this satisfactorily would require a much larger force of men than can be spared for such work by the average Fire Department. There are also difficulties to be encountered in the way of opposition by the householder that would not be encountered in the inspection of business establishments.

An interesting experiment along this line has been tried by the Providence, R. I., Fire Department, under the direction of Chief Frank Charlesworth. This was an inspection of the cellars of residence under the joint auspices of the Department and the Safety Council of the city. Considerable publicity preceded the drive. The local papers carried columns of articles on the proposed clean up. The city officials publicly endorsed it. The consequence was that, even before the inspection started, the city incinerator was overtaxed by the amount of rubbish turned in to the garbage collectors. A remarkable fact was the cooperation received by the members of the Fire Department from the householders. It is said that out of nearly seventy-eight thousand cellars inspected, only 288 refusals were recorded by the inspectors.

This plan might be worthy of emulation by other Fire Departments which do not attempt to inspect residences in their cities.

The Hazards of Volatile Cleaning Fluids

In spite of wide publicity and repeated warnings, individuals—it is usually a woman—will use gasoline, benzine and other inflammable cleaning fluids in closed rooms and with unguarded lights or stoves in the vicinity.

Even without the fire being present there is danger, especially with gasoline, as static electricity may be generated and a spark produced by friction of the fluid on cloth.

Numberless accidents from this cause have occurred and are constantly occurring. In Brooklyn, N. Y., for instance, within the past week, a young woman was cleaning a dress with gasoline in a closed room, and the fluid ignited from an unknown cause. The result was that the woman's body was so badly burned as to be unrecognizable and her father, who attempted her rescue, was also fatally burned.

This is only one of hundreds of instances where persons have been more or less severely burned through ignorance or carelessness in handling these dangerous substances. Chiefs and members of Fire Departments can do much to avoid such accidents by giving wide publicity to warnings as to the common sense use of such cleaning fluids—if they must be employed. By warning the people of their cities to use gasoline, benzine, and so on, only in the open air, in the daylight and not in near proximity to any form of open light or flame, many such accidents and fatalities can be avoided.

Fireman Discharged for Attending Fire

Apparently a great injustice has been done to a member of a New York State Volunteer Fire Department. This man was employed by a railroad as a section hand. He recently responded with his company to an alarm of fire and the fighting of the blaze caused him to be late to his work.

On reporting late to the section foreman, the man was immediately discharged, in spite of the fact that he explained the cause of his tardiness and claimed that he was employed upon civic duty. The local volunteer firemen's association, of which the fireman is a member, took action in the matter and the secretary was instructed to intercede for the man with the railroad company. As yet this has been without result.

It would be a rather surprising thing if the railroad company should sustain the action of its foreman. The volunteer fireman is engaged upon a work in which all of the community benefits. He is the guardian of lives and property of the citizens and it is certainly the most short-sighted policy for any employer—and especially so for one which is connected with public service in any way—to discourage men from joining the ranks of fire companies. Such action as that of the railroad company practically puts a ban upon any of its men joining the fire-fighting forces.

There is also another angle to the situation. The company has station buildings and other structures along its right-of-way which it expects the Fire Departments of the various municipalities to guard from fire, the same as the buildings of any other private property holder. It is certainly a mighty one sided action, therefore, for it to expect this privilege and yet forbid any of its own

men to take part in this public service—or at least to take action which practically precluded its men from joining the ranks of the volunteers.

It is to be hoped, in justice to itself, that the railroad company in this case will rescind the action of its foreman and restore the man to his position.

Boston Fights 3-Alarm Warehouse Fire

A very spectacular blaze broke out in a 3-story frame storehouse in the Charlestown district of Boston, Mass., on January 28.

The first alarm was received at 12:27 a.m. A second alarm was sounded at 12:31 and a third at 12:33.

There were bowling alleys on the first floor of the storehouse and the two upper stories were filled with furniture. Wooden tenements adjoined it. The building was at the corner of Main and Union Streets.

A wagon gun was operated on Union Street. Hose lines were taken over ladders, through an alley to a rear court-

Fighting the Three-Alarm Fire in the Charlestown Section of Boston

yard, and up to vantage points on the rear porches of adjoining houses. The storge building had a frontage of 50 feet on Main Street and 150 feet on Union Street.

The response of apparatus was as follows: On the first alarm, Engines 50, 27, and 36; Ladder Companies 9 and 22, and District Chief Philip Tague. On the second alarm, Engines 32, 8, 6, 10, and 35; District Chief Avery B. Howard, Deputy Chief John J. Kelly, two lighting plants, fuel wagon, and protective department cars, and Ladder Companies 1 and 24. On the third alarm, Engines 38, 15, 43, 13, 34 and 26, and Chief Henry A. Fox responded.

The department laid 1400 ft. of 3-inch hose, 6000 feet of 2½-inch hose, and 150 feet of ¾-inch hose. American-LaFrance pumpers were used. The loss was estimated at $27,600.

HARRY BELKNAP.

Six Towns Join in Apparatus Purchase—The communities of Custer, Amiret, Springdale, Monroe, Shetek and Tracy joined in the purchase of a community fire apparatus for the protection of rural property.

ELEMENTS THAT MAKE UP THE FIRE SCHOOL TEACHER

He Must Thoroughly Know His Subject—He Should Be Able to Prepare the Scholar to Receive Instruction—Must Instruct Clearly

By B. C. MOORE
Business Research Bureau, Success Business College, Winnipeg, Can.

THERE are three distinct divisions to be noted in approaching the subject of how to teach, namely: The preparation of the teacher himself, the preparation of the pupils for the reception of the subject, and the actual presentation of the subject itself.

No man can become a good teacher unless he keeps in mind the absolute necessity of proper and adequate preparation of himself for his work. First of all, the teacher must believe in his work and his subject. He must believe that his work has a real place and a distinct value in his community and in life, if he is to get his teaching across with the fullest power. Then, too, he must have the conviction that he is in his right place, and that it is his particular duty to deliver this message, and that failure to do so would mean that his community and his country would suffer.

Teacher Must Be a Master of His Subject

If he has been thoroughly sold (1) on the importance of his work, and then (2) his place in that work, he will have to take all subjects necessary to develop and maintain his place as a leader of those he wishes to teach. To hold his place of leadership, it is obvious that the teacher must be master of his subject. By that I mean that he must so thoroughly understand this subject and that he has so mastered it, that his pupils will realize from the moment he begins to speak that he has fully grasped the subject, that he has made it a part of himself, and it is something of a distinct value that they must get or suffer a loss if they fail to do so.

Must Be a Master of Himself

Having such a firm conviction in the value of his work, and having mastered his subject, he, as a teacher, must then, and at all times in his teaching, be master of himself. An irritation of some sort caused by a teacher will upset the influence of his work and hinder some pupil from comprehending an important point.

Must Prepare Pupil for Maximum Receptivity

The above points will develop the personality so necessary to a teacher who is anxious to lead his class. A good teacher, however, must also prepare his pupil for the maximum amount of receptivity. He must create and maintain in that pupil, a keen desire for knowledge of the particular subject being taught. To do this, the teacher must live his subject before his pupils. The teacher's earnestness must have its effect on his hearers and produce a favorable mental reaction.

He must see that his pupil is favorably disposed toward him and to his subject. The pupil must be mentally alert. He must not only be mentally alert, but there must be a bond of sympathy between him and the teacher. With this he will give the fullest co-operation intellectually and physically and be in the most receptive mood to receive the message, thus expressing harmony between them and radiating a happiness that comes only where joy and harmony prevail. In other words, all this develops interest, which is essential in the imparting and receiving of knowledge in the fullest extent.

Presentation of the Subject

I now come to a very important part of my address, that is the question of the presentation of the subject. It is under this heading I place system, order and discipline first. These essentials are so clearly understood and appreciated by Fire Chiefs that there is no need for me to elaborate on them. They are just as important in teaching as they are in the Chief's calling. Secondly, you must as far as possible be as one with your pupil giving him the idea that you are not only anxious to put over your subject but that you are interested in what he does, interested even in his sports and other activities outside the actual class work and better still have similar likes to him.

(*Continued on page* 137)

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Siphoning of Extinguisher

To the Editor:

In your February 4, 1931, issue, there appears a question regarding "siphoning of extinguishers"; of the Babcock soda and acid type.

I was under the impression that I had given you a remedy for this trouble, but upon referring to my old file copies dated April 2, 1930, page 284, and April 30, 1930, page 373, I find that the information has been omitted.

Therefore, I would say that in connection with this subject a suggestion was made to Chief John Kenlon, of the New York Fire Department, by Captain James Hanley of Engine Co. 159, which reads as follows:

"The 2½-gallon extinguishers, dump or break bottle type, because of their construction, have a tendency to siphon when the soda mixture is shaken up by the vibration of apparatus when responding to and returning from alarms of fire. This causes a gas to form on top of the mixture inside of the extinguisher, and a pressure is created which forces the water and soda mixture to dribble out of the nozzle and splash over the apparatus, tools, etc. It also causes the loss of most of the contents and corrodes the nozzle, leaving it in a condition in which it is hard to open or close.

"To overcome this condition I had a small hole, 1/16", drilled in the discharge pipe, at the elbow, above the water line, inside of the extinguisher. The nozzle of the extinguisher is then left open and any pressure created in the extinguisher is expelled to the outer air. The hole is so small that it has no ill effects when the extinguisher is in operation."

I have investigated and tested the suggestion submitted by Captain James Hanley and find that after every run the extinguishers carried on apparatus in this Battalion show signs of leaking and as much as 5% of the contents has been lost due to this condition. This has been eliminated by drilling a small hole in the elbow of the discharge pipe as described by Captain Hanley.

JOHN SPENCER,
Battalion Chief, N.Y.F.D.

Mildew on Hose

To the Editor:

Would you please give me a detailed definition of mildew, or "hose rot". We certainly do not wind up or coil hose while it is wet or even damp, but, if such is done, the hose will start to show signs of mildew within a few days.

Can you enlighten me as to where it originates or what causes it? N. W. Q. A.

Answer: Mildew is a parasite fungus which grows readily on vegetable matter and certain manufactured articles such as leather, cloth, fire hose packets, etc. When conditions are suitable for its growth, it invariably appears, which leads to the belief that the seed is always present in the vegetable and other materials. Just how the seed lodges there it is impossible to say, but the fact that mildew forms (or the fungus grows) on certain articles when moist, and warm, indicates that, as stated above, the seed is ever present and it requires but moisture and proper temperature to start its growth. It may be compared to certain desert flowers, the seeds of which lie dormant the larger part of the year and only spring up when rain falls in the early spring.

The surest method of preventing mildew on fire hose is to keep the hose jackets dry, and under no condition fold the hose in the body of a car until such drying is completed.

Converting Chemical Tank

To the Editor:

I have a suggestion for "R. M." in your November 26 issue concerning "Conversion of Chemical Tank."

Place a valve between the suction and discharge. By "cracking" said valve he may by-pass the water from the tank to the discharge and back to the suction again. He can maintain any desired pressure and use his water very slowly if he so wishes.

We have such an arrangement on a 50-gallon pump from a 160-gallon tank and it works very satisfactory.

I would be glad to correspond with "R. M." for any further data.

E. O. D.

Foam Generators

To the Editor:

In your issue of December 10, 1930, on page 1055, there is a letter signed by C. T. A. asking for certain information on a foam generator. I believe we can answer C. T. A.'s question to his satisfaction.

From the description given in the letter it would seem that our Foamite Generator Model 10 would come nearest to fitting the requirements. This generator has a water capacity of 30 g.p.m. Its best operating pressure is 100 lbs. per sq. in. at the generator. The ¾" chemical hose inlet is too small unless pressures upwards of more than 200 lbs. would be advisable at the pumper. It would be more advisable to install a 1" chemical hose inlet. The loss in this hose at 30 g.p.m. is approximately ¼ lb. per ft. as against 1 lb. per ft. in the ¾" chemical hose.

For the outlet hose a 1½" size is recommended with a working length of 100 ft., the nozzle having a ⅝" tip. This device can be operated in conjunction with a booster tank. It will operate with pressure as low as 75 lbs. at the generator but the 100 lbs. is recommended.

AMERICAN LA-FRANCE & FOAMITE INDUSTRIES,
F. H. Steinicke.

To the Editor:

I note with interest that in your December issue of FIRE ENGINEERING, page 1055, you have discussed hook-ups for fire foam generators. You claim that it would not be possible to obtain an effective foam stream through a 200-foot ¾" chemical line supplied by an 80-gallon booster tank at 80 pounds pressure, the foam to be delivered to the fire through 150 feet of 1½" hose. Your reasoning is sound, but not entirely practical.

Fire foam was created primarily for combating oil

fires. The oil companies frequently transport their oil storages and hazards to places where water is not available. In order that some protection may be given to these hazards which must necessarily be left unprotected I have made such an arrangement as you have mentioned but disapproved. While I realize that the hook-up designated by the manufacturer is the best one, I believe that the one I have arranged will operate sufficiently well to provide additional protection.

PAUL F. DOLAN.
Chief, F. D., Cedar Rapids, Ia.

Streams on Electrical Apparatus

To the Editor:

I have heard that it is possible to direct fire streams with safety on electrical fires, and that certain figures have been prepared for fire department use showing safe practices. If such are in existence I feel sure that you have such information and have probably published it. I would, therefore, appreciate your sending me a copy of such formula, dealing with the possibility of operating on high voltages without endangering the men.

H. E. C.

Answer: Fresh water streams may be used with comparative safety, under certain conditions on electrical fires. The chief precaution to take is to keep the nozzle a sufficient distance from the live electrical apparatus.

The following table, prepared by F. Shepperd (and published in *The Fire Engineer*, Jan., 1923, page 11), has been worked out on the basis of permitting a flow of current through the body which, while very unpleasant, would in no manner be dangerous. It gives the distances at which nozzles must be kept (minimum distances) to make it safe for the men holding it:

Voltage	Safe Distance 1½ Nozzle Feet	Safe Distance 1¼ Nozzle Feet
1100	6	9
2200	11	16
3300	15	22
5500	18	27
6600	19	29
11000	20	30
22000	25	33
33000	30	40

The above figures apply to fresh water only. If salt water (sea water) were being used, distances 200 times as great as the above should be used. Streams of such length would, of course, be impracticable. This is just another way of saying that salt water streams must be kept off high voltage apparatus.

Ambulance Service

To the Editor:

We would appreciate your answering the following: Do you think its practicable for a Volunteer Company located in a town of about 4,000 population to purchase an ambulance?

Our active roll is about 25 men and at the present time we have a service truck and a pumper. We have no paid men.

Also, in your opinion do you think we would be able to give proper ambulance service in our community.

L. S.

Answer: To say the least, it would be a highly ambitious move for a department of your size to secure and put in service an ambulance. Where ambulances are run in connection with large departments, there is usually on hand the department physician or surgeon to train the men; furthermore, there are a large number of men from which to pick suitable ones for ambulance work. And, finally, the members of the ambulance squad are trained in the department's time by department or other surgeons so that they are capable of performing their work in a very able manner.

While almost any man in the department can be trained to handle such work as artificial respiration, and bandaging minor wounds, there is a great deal more which members of the ambulance corp must understand, such as the treatment of unconscious persons, etc. Unless you have physicians who are willing to work closely with the department and give considerable time and effort in training an ambulance squad, it would probably be unwise to spend the money required, for getting this particular piece of apparatus and the necessary corps in shape for service.

It would probably be far better to spend a like amount of money on fire fighting apparatus, and drilling men into fire fighting operations, and the use of equipment.

Again, it may be said that it depends entirely upon the medical service you have available for training your men and cooperating with them when the ambulance is called upon to do service.

Chief George Mantor Resigns

George Mantor, Chief of Fire Department, Seattle, Wash., resigned after ten years' service as head of the department and after being a member of the Seattle Fire Department for thirty-five years. Ill health was given as the reason for this move.

Chief Mantor is fifty-nine years old. He will receive a pension of $3,000 a year, half of his regular salary.

The Board granted his retirement with expressions of regret. The Mayor said he, too, was reluctant to see him leave the service. Incidentally, ten years marks the record of office for a Seattle fire chief.

While the future plans of Chief Mantor are not known, it is generally believed that he will become manager of a company about to manufacture a new fire extinguishing compound. Company headquarters will be in Seattle.

Robert Laing, City Fire Marshal, was appointed to fill the vacancy, subject to the confirmation of the City Council. He will be the first native born Seattle man to head the Fire Department. For the time being, John Reed, Chief Fire Inspector, will serve as City Fire Marshal.

Ex-Chief George Mantor

Ahrens-Fox Elects Officers

Frank G. Deckebach has been elected a member of the Board of Directors of the Ahrens-Fox Fire Engine Company taking the place of John P. Ahrens, retired. The Board now consists of Charles H. Fox, Warren E. Keplinger, August H. Teuchter, Henry G. Frost, Harry Weil, W. H. Shafer and Frank G. Deckebach.

Immediately following the Stockholders annual meeting which was held February 10, the new Board organized and elected the old officers with the exception that August H. Teuchter, President of the Cincinnati Bickford Tool Company was elected Vice-President of the Ahrens-Fox Fire Engine Company to succeed John P. Ahrens.

The Executive Committee consists of Warren E. Keplinger, Managing Director, Charles H. Fox, President and Treasurer, and August H. Teuchter, Vice-President.

Franklin H. Wentworth to Give Radio Talk—Franklin H. Wentworth, Managing Director of the National Fire Protection Association, Boston, is to speak upon the subject of individual liability for preventable fires over Station WJZ of the National Broadcasting Company, New York City, on Tuesday, February 24 at 6:20 p.m.

Ponchatoula, La., Has Efficient Department—The State Insurance Commission credits Ponchatoula, La., with having one of the best and most active volunteer Fire Departments in the state. Although the volunteers are supposed to receive $1.50 for every fire attended, the men voted to give their services free. Th city pays the expense of delegates and subordinates to the annual conventions.

53 APPARATUS UNITS CALLED FOR NIGHT FIRE IN NEW YORK

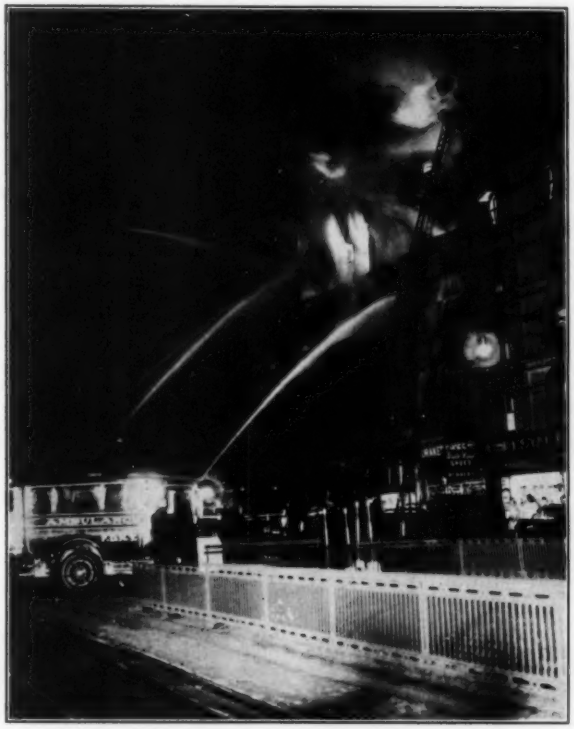
Old Building in City's White Light Area Involved in Serious Fire — Chief McElligott Turns in Historic 9-9 Fire Call

By WM. JEROME DALY

THE Lincoln Square Building on the northwest corner of 65th Street and Broadway, New York City, was destroyed by fire on the night of January 29. The blaze gave the firemen one of the stiffest and most hazardous battles of their career—twenty of them were injured in one way or another, two of them miraculously escaping alive and one of them finding himself catapulted through debris from the third floor to the cellar, minus his boots, trousers, rubber coat and fire hat. He ran barefooted through the ice-covered streets, badly burned.

The fire was unusual for it was so great by size and intensity, and it was so threatening to surrounding structures, that Acting Chief John J. McElligott, in order to bring additional help above a fifth alarm, sounded the 9-9 or simultaneous call. This with some special apparatus gave him 35 engine companies, 11 ladder companies and 7 special pieces such as 3 water towers, searchlight, ambulance, etc.

A total of 53 pieces of apparatus were actually engaged in combating the flames while 20 engines and 6 ladder trucks changed location on Manhattan Island. There were about 322 men in action. The temperature was 20 above, the wind 22 miles from the west and this was fortunate as Lincoln Square to the east is open and spacious. Hot sparks were blown into Central Park compelling hundreds of motorists to stop and sweep them off the tops of their automobiles.



Over 300 Firefighters Saw Service at this Fire in the Lincoln Square Building

The building, constructed in 1900, is actually two structures, with a 35 foot air and light shaft between. This shaft extends completely from the front on Broadway to the rear of the building. The Broadway frontage (taking both structures together) is 170 feet, the 65th Street side is 183 feet, and the height six stories or 75 feet. The structure is irregular. It measures 150 feet on the north end, adjoining a five-story tenement house on the 66th Street corner. In the rear on 65th Street is Loew's Lincoln Square Theatre, which is reached through a covered arcade that forms the ground floor of the 35-foot light shaft dividing the two buildings. The structure was non-fireproof, built of brick, wood lath and plaster; it had two elevators with grilled shafts around which entwined slate stairways on iron frames. Each wing had a sub-standard standpipe with 2½-inch outlets on each floor and 75 feet of hose. Each floor in each wing had 30 buckets of water; there was an N.D.T. snap box on every floor of each wing. The floors were bridged across the light shaft at all excepting the ground floor. These bridges were of wood on iron trusses, enclosed with metal sheeting and protected at both ends with double swinging doors metal covered.

These bridges or companionways between floors led to and from corridors running north and south. The corridors then went east and west in both buildings, terminating at windows where there were fire escapes. There was a fire escape bridge in the rear from the fifth floor to the roof of Loew's Theatre, another at the second and fifth floors on the northerly side reaching to the building at 66th Street and Broadway. There were no violations pending against the building, as far as could be ascertained. There has been 26 previous fires in the building, one of them a third alarm in the cellar several years ago.

The fire provoked the fact that neither the Fire Department nor the Tenement House would father the building. Tenement House Commissioner Deegan said it was listed in his record as an office building. The Fire Department carried it and inspected it as "mixed occupancy."

The building contained a combination of stores, offices, studios, studio apartments, and miscellaneous occupancies. There were approximately 225 tenants in the building. It is located in that section of Broadway when tenure of occupancy is always uncertain. Many gas cooking stoves were found, some army cots; a sort of Bohemian colony, although there were also some staid folks residing there, two of whom were rescued by firemen.

The puzzling point about it all is that a fire in the "white light" district at 11:30 o'clock at night could get such headway before being discovered. The fire started on the third floor of the north wing in a room occupied by a man who made pills and capsules.

The fire was discovered by a geologist who had recently returned from Mexico with valuable data and research statistics about oil well discoveries which he made. All these records were lost in the fire. He was reading with his mother in a room on the third floor, south wing, and at about 11:30 he observed flames in a room in the north wing across the light shaft. He cautioned his mother to flee. The geologist crossed the third floor bridge to the north building, hurried along the corridor but the smoke drove him back.

He hurried to the elevator operator to sound a fire alarm. In the interim (11:49 o'clock) the street box at 66th Street and Columbus across the square was pulled. A minute later the N.D.T. snap box for the Lincoln Square Building was received by fire alarm central but not sent out. Two other street boxes, one north and the other south were hooked, but not transmitted. There were a few telephone calls to the central office.

Engine Co. 40, in 63rd Street, two blocks away was first in. Flames had not up to that time belched forth from the Broadway front. Batt. Chief William Bowen of the 9th battalion arrived. Lines were stretched into the arcade entrance and up the stairway to the third floor. Deputy Chief Frank Murphy who made a short run across Central Park from the east side of Manhattan found flames belching forth from windows. He sounded a second alarm at 11:58, a third alarm at midnight, and a fourth at 12:09 o'clock a.m.

It is unknown how many persons were in the structure at the time. The theatre, which was not affected, had been closed for the night. The draught which spread the flames across the light shaft had the building seething by the time Chief McElligott arrived from his station at the Battery. He sounded a fifth alarm at 12:23 a.m.

The fire had its own way for a while until McElligott determined that he needed more help. Flames were belching across 65th Street and threatening the old structures to the south. It was an inferno. The Chief selected a downtown box for the 9-9 signal and this brought him 14 more engines and 5 more ladder trucks, as well as a water tower.

The fire was under control at about three o'clock. The first due company spent nineteen hours at the fire. The collapsed floors made the walls very precarious. Ice enshrouded the structure. It was difficult to determine just what might happen next. The subway under Broadway was

not permitted to carry passengers past the location for several hours. Vehicular traffic in Broadway was detoured all day.

The building is insured for $400,000 but the owners estimate their losses far above that figure. Fire Marshal Brophy and his assistant, Mr. Gribben, are still holding the case open for further investigation, not that they attach any suspicion to the origin, but to obtain a more detailed story from many of the occupants, who scattered after the fire.

WHAT'S BURNING

THE following list includes fires of $25,000 loss and over in the United States and Canada, for the periods designated in the headings. These figures, compiled from telegraphic reports, are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousands of dollars.

Week Ending February 6

	Loss in Thousands of Dollars
ATHENS, TENN.—Sanders' restaurant, adj. property	40
WOONSOCKET, R. I.—Apt. and business property of M. Falk	80
FREMONT, NEB.—Several business establishments	40
KENNETT, MO.—Mill property of Hemphill Lumber Co.	35
HILLSVILLE, VA.—Business section destroyed	125
MONTREAL, QUE.—St. Denis Roman Catholic Church destroyed	250
STRASBOURG, SASK.—Bldg. of Pioneer Store Co.	25
CHARLOTTE, N. C.—Bldg. occupied by Johnson Furniture Co.	65
IRON SPRINGS, ALBERTA—Elevators of Alberta Pacific Milling Co.	80
GREENTOWN, IND.—Haine garage, post office bldg.	35
ENID, OKLA.—Plant of Enid Milling Co., damaged	80
ALLIANCE, OHIO—Dept. store of Spring-Holtzworth Co.	400
MILFORD, ILL.—Farm home of Mrs. F. Buhr, 10 mi. N. W.	25
HARTFORD, CONN.—Asylum Ave. Baptist Church destroyed	100
MERIDEN, CONN.—Business property owned by H. F. Pigeon	40
STOCKTON, CAL.—Eden Square apartments destroyed	600
STAPLETON, S. I., N. Y.—Plant of Bechtel Brewing Co. destroyed	200
ROOSEVELT, L. I., N. Y.—Three hangers and several planes	150
HUNTINGTON, TENN.—Carroll County Court House destroyed	35
NEW BERN, N. C.—Duffy drug store damaged	25
RICHMOND, MICH.—First Evangelical Church destroyed	25
TYLER, TEX.—Naylor dept. store, adj. property	150
SAULT STE. MARIE, ONT.—Premises of Hingsperger Harness Co.	80
QUEBEC, QUE.—Property occupied by Franco-Belge Photo Institute	40
LONDON, ONT.—Labatt's brewery buildings destroyed	80
CEDAR RAPIDS, IA.—Newman dept. store damaged	300
KEWANNA, IND.—Methodist church damaged	25
LOS ANGELES, CAL.—Property of Los Angeles Sack Co., Aliso St.	25
INDIANAPOLIS, IND.—Property occupied by F-K Auto Truck Co.	50
WATERBURY, CONN.—Plant of Waterbury Steel Ball Co.	25
MEMPHIS, TENN.—Seven launches destroyed	25
WEST PALM BEACH, FLA.—Bldg. of Flogg mill destroyed	75
OTTAWA, ONT.—Property occupied by W. G. Edge, Ltd.	30
ST. LIN, QUE.—College of St. Lin. destroyed	45
CLARKSVILLE, PA.—Whse. of Clarksville Wholesale Grocery	25
OWEN SOUND, ONT.—Plant of Dominion Linseed Oil Co.	25
RED HILL, PA.—Perkiomen Clothing Co. plant damaged	25
KNOXVILLE, TENN.—Olive Douglass shop and adj. property	40
NEW ROCHELLE, N. Y.—Nykagyl Country Club destroyed	80
MARSHALLTOWN, IA.—Fortney building damaged	30
DAUPHIN, MAN.—Elevator of Dauphin Milling & Creamery Co.	25
HAGERSTOWN, MD.—Lumber plant of Wm. A. Danzer & Co. destroyed	200
FITCHBURG, MASS.—Universal block, Main St.	125
BEDFORD, ONT.—Catholic church destroyed	25
PRESCOTT, ONT.—Doyle's department store damaged	50
KELLY HILL, W. VA.—Merindo business and apt. bldg.	25

Week Ending February 13

CHICO, CALIF.—Odd Fellow's Hall destroyed	30
BLUFFTON, IND.—Leader Dept. store destroyed	80
DETROIT, MICH.—Business property at 331-335 Gratish Ave.	80
DES MOINES, IOWA—Chase Bros. Grocery Co. destroyed	40
LOUISVILLE, KY.—J. C. Fisel Transfer Co. bldg. damaged	40
WATTERBORO, S. C.—Brick business building destroyed	25
BOSTON, MASS.—Whse. of F. J. O'Hara Trawling Co.	40
WILLIAMSVILLE, N. Y.—Burkhardt business block destroyed	45
SIOUX FALLS, S. DAK.—First Congregational Church damaged	45
SMITHVILLE, TENN.—Business block on Public Square	80
MILLWOOD, GA.—Property of L. W. Herrin and J. W. Murray	35
OTTAWA, ONT.—St. Jean Baptiste Church destroyed	300
MILFORD, IND.—Store of Chas. Sparkling, adj. property	40
GARY, IND.—Plant of Calumet Glass Co., adj. property	100
VINSON, OKLA.—Business district damaged	100
GRAYLING, MICH.—Property of Clifford Durant, 20 mi. S.	200
SILVER BEACH, CONN.—Garage of White Line Express, Inc.	40
BUFFALO VALLEY, TENN.—Business and residential property	65
E. CHARLESTON, MISS.—Plant of Turner-Farmer-Love Co.	200
HOPEWELL, VA.—Hotel Hopewell destroyed	25
MANNINGTON, W. VA.—Hotel owned by F. W. Bartlett	125
BIRMINGHAM, ALA.—Bldg. of R. B. Broyles Furnitutre Co.	50
DETROIT, MICH.—Furniture whse. of Yockey Bros.	250
OAKLAND, CALIF.—50 prize horses and equipment of Oakland Nat'l Horse Show	250
SYRACUSE, N. Y.—Eagle Tobacco store, S. Crouse Ave.	25
TROY, N. Y.—Bldg. occupied by Ilium Mfg. Co.	65
HOLGATE, OHIO—Holgate Chick Hatchery destroyed	25
GOGAMA, ONT., CAN.—Business and residential property, Main St.	80
PITTSBURGH, PA.—Bldg. occupied by Reliable Trunk Co.	200
TUNICA, MISS.—Several business establishments destroyed	40
AUBURN, IND.—Atlantic & Pacific store, adj. property	40
IOWA CITY, IA.—Rohrbacker Sanitarium damaged	40
PITTSFIELD, MASS.—Lloyd Block, North Street, damaged	25
BUFFALO, N. Y.—Bldg. occupied by Standard Shoe Repair Co.	40
EAST WESTON, W. VA.—Whse. of Louis Glass Co.	50
VANCOUVER, B. C.—First Baptist Church destroyed	80
CHICAGO, ILL.—Business property at 1121 W. Washington Blvd.	35
HUMBOLDT, TENN.—Whse. of Humboldt Canning Co. destroyed	25

HOW ONE CITY CLEANED UP THE CELLARS OF ITS RESIDENCES

Providence Fire Department Conducts a Drive to Reduce Rubbish in Householders' Cellars — Movement a Success

By HARRAH K. BENNETT
Manager, Providence, R. I., Safety Council

THE Providence Safety Council, with the cooperation of the Providence Fire Department under the direction of Chief Frank A. Charlesworth, recently completed the most extensive inspection of dwelling house cellars ever attempted by a city of similar size. During the campaign 77,077 cellars were inspected, and but 288 refusals were encountered. At each dwelling two firemen asked the privilege of inspection, and, if met with a refusal simply passed on to the next house.

Chief Frank A. Charlesworth, Providence, R. I.

To make the campaign a success even before it was started, Chief Charlesworth sold the idea to each of his Battalion Chiefs, and to the 38 captains, each in charge of a district. When the word was given to commence, everything started off smoothly. The inspecting firemen did the work on their off platoon time, and so thoroughly was the work accomplished that the campaign was over in three weeks.

Prior to the starting of the campaign, local papers carried columns of articles and a large number of cartoons, and the Fire Commissioners, Mayor and other city officials publicly endorsed the drive.

Many householders started right in to clean house as soon as the announcement was made, and this resulted in overtaxing the city incinerator to such an extent that it was necessary to run day and night for three weeks and some 20,000 to 25,000 excess tons of rubbish were brought in daily during this period.

At each home inspected, a booklet was left calling attention to the common hazards of fires and a "cooperation" card to be placed in the window or hung in the kitchen was left. Up to and including November 15, there were but two alarms in the city on account of cellar fires and both of these were caused by electric wires.

This of course was a very remarkable and encouraging city-wide record.

Some 150 firemen were engaged in the inspection in the 37 fire districts and that but 288 refusals for inspection were encountered showed conclusively that the citizens at large welcomed the idea. Quite a few amusing situations cropped up during the inspection. In one case a woman who evidently had not heard of the inspection was quite disturbed at the condition in her cellar and apologized. Later in the day she called fire headquarters and asked that the firemen come back and see what a good job she had done cleaning up.

In one cellar firemen found a fire blazing merrily. It seems that a piece of charred wood had been taken from a heater, supposedly without any fire left in it, laid on a pile of kindling, and blazed up. Needless to say there was one unrecorded fire on the blotter.

The inspection was carried on along the lines of education, to instill into the minds of householders that 85% of fires are in dwellings and the majority start in cellars.

Chief Charlesworth expressed himself as greatly pleased with the results of the campaign and predicted that cellar fires would be at a minimum for some time to come.

It is probable that a similar inspection will be made in 1932.—*Public Safety.*

FIRE UNDERWRITERS COMMEND CHICAGO FIRE DEPARTMENT

Findings of Five Months' Study Issued by National Board of Fire Underwriters—Extensions and Changes Urged to Fire Alarm

Report Reviewed by WM. JEROME DALY

THE Chicago, Ill., Fire Department "is under the strong and efficient administration of a Fire Commissioner who has adopted a progressive program as shown by improvements made during the past three years and the proposals he has made for further extensions" according to a survey made by the engineers of the National Board of Fire Underwriters.

Chief Michael J. Corrigan

Fire Underwriters, after an exhaustive study and observation of every phase of the fire protection facilities of the mid-western metropolis, make forty-six recommendations for betterments and changes which will require an appropriation of city funds in order to carry out the recommendations which the Fire Underwriters regard as essential to a fire fighting organization charged with the responsibility for the protection of life and property in a city of the size and commercial importance of Chicago. Some of the recommendations are:

Fire alarm headquarters now located in City Hall be replaced with three modern central stations in buildings that are fireproof, isolated and located with regard to the density of population;

Fire fighting personnel be increased by providing more men for furloughs so that at least six firemen will be on duty in the daytime and eight firemen in the night time in hazardous districts;

The department organize at least six additional fire companies;

Provision be made for additional hose wagons for at least one-half the number of fire companies now located in hazardous districts;

All fire alarm boxes be equipped with doors constructed to permit sending an alarm of fire without opening the door;

All fireboats be equipped with radio on the same wave length with the police department.

Provision be made for sufficient fire alarm telegraph circuits, as the present circuits are badly overloaded;

Owners of existing defectively constructed buildings which are fire hazards to surrounding property be required to protect floor, window and party-wall openings;

Automatic sprinklers be required in all buildings which by size, construction or occupancy might be conflagration breeders;

A separate high pressure fire main system be constructed at an early date capable of supplying 30,000 gallons a minute.

Sixty-two years should be the age limit for service in the Fire Department.

The report embraces eighty-two pages, with several charts and maps appended. It represents five months of research and examination of the Fire Department and other fire protection features makes public acknowledgement to Fire Commissioner A. W. Goodrich for "valuable assistance rendered." Other city officials and department officials as well as the Chicago Board of Underwriters are likewise recognized in the report for their cooperation in making the survey.

Regarding the personnel, the Underwriters say: "The chief officers are experienced, competent and up-to-date in modern fire fighting methods."

The Underwriters' engineers in their conclusions in the report point out that "fire companies are undermanned due to vacations; the built-up parts of the city are generally well protected; the drill schools are excellent features and the fire company work is more uniform and operations are carried out with much more assurance than formerly; apparatus is in good condition with a good supply of reserves; hose in good condition, properly tested and cared for; the administration's plan for additional and relocated fire companies is along proper lines for the general improvement of the department and suitable action should be taken for providing the funds for the general progress as outlined by the Fire Commissioner."

In pointing out that only 357 fire alarm boxes have been added since 1922, the Fire Underwritrs say "The fire alarm system is not abreast of the times due to lack of finances." They refer also to "the ridiculously low sum of $5,000 allotted for improving the fire and police signal service in 1929 which only partially covered replacements." The report discloses that in 1912, one fire alarm box in Chicago served 1160 of population and in 1930 one fire alarm box served 1318 of population. The average fire alarm circuit today serves 39,000 population. The report declares that "to rehabilitate and extend the present fire alarm central office in the City Hall is fundamentally and economically unsound; immediate consideration should be given to plans and finances for three new central offices properly located as to population."

After presenting a word picture of the city of 3,373,753 population, 210 square miles in area; 70% of which is closely built up, with 3625 miles of streets and 1998 miles of alleys, the report refers to Chicago as "the most important railroad center in the country" where the average annual fire losses for the past five years were between $11,000,000 and $15,000,000; the annual fires averaging 20,495; the average loss per fire $670 "a low figure" they say; and the average fire loss per capita $4.42 which the Underwriters characterize as "moderately high amount."

In reviewing the accomplishments and the progress made by the department since the previous survey by the National Board of Fire Underwriters, the engineers report that the position of Departmental Inspector has been created; that all chiefs are now under civil service rules; the personnel has been increased by 436 firemen of which 350 were added by the present Fire Commissioner Albert W. Goodrich; who is also responsible for the recent addition of six engine companies, fifteen ladder companies, seven high pressure companies, three rescue squads, three water towers, six ambulances, three fire foam trucks, three electric light trucks, one compressed air supply truck and nine new auxiliary squad wagons.

The report describes the organization by Commissioner Goodrich of a college for fire officers and says the functions of the drill school have been expanded and improved. It states, "It is contemplated by the present administrative head of the department to increase the number of firemen per fire company, to issue a revised book of rules and regulations, and if the necessary funds can be obtained, to make the following imperative improvements in fire department buildings; 28 new fire stations on existing sites; 14 new sites and buildings for as many existing fire companies to be relocated; 9 new sites and buildings for new companies; 63 buildings to be remodeled; 2 small fireboats and a new paint shop."

The net fire fighting strength of the Chicago department is given in the report as 2,196 men divided into a two-platoon system of 1,098 men each.

"The strength required" the report continues, "for efficient operation with the present apparatus is 1,373 men on each platoon." This would mean an increase of 550 for the present number of fire companies.

"As a result of this survey" the report goes on, "an officers' training college was established; the chief officers are the instructors; tests of evolutions and company drills were performed expeditiously and well; the men showing proficiency in all maneuvers; the Departmental Inspector and the Drillmaster alternate in attending fires to observe if the training methods employed at the school are carried out."

N. E. Chiefs Ask for Suggestions

Chief Selden R. Allen of Brookline, Mass., President of the New England Association of Fire Chiefs, has sent out a circular letter to the members regarding the coming convention in Boston, June 23-26. The members are urged to send suggestions for topics to be discussed to Chief John W. O'Hearn, Secretary, Watertown, Mass. If there is any particular demonstration that a member would like to witness, the information should be sent to Chief Daniel B. Tierney, of Arlington, Mass.

A large attendance is expected at the ninth annual convention. The Copley Plaza has been selected as convention headquarters.

HARRY BELKNAP.

Heads Department for 39th Time—Chief Fred E. Johnson has been named to head the Fire Department of Pawtucket, R. I., for the thirty-ninth consecutive term.

RADIO ON FIREBOATS INCREASES IN POPULARITY

Several Cities Having Such Craft Have Tried Out Its Use Successfully — Long Unnecessary Runs Are Avoided by Its Use

A FEW years ago the world thrilled at the ease with which it was possible to lift the receiver from a telephone in an office and then calmly say to the telephone operator, "I want to talk with Mr. John Blank on the Leviathan."

And it has been demonstrated in New York City that it was no more difficult for a land station to keep in constant touch with the officers on a fireboat even though the craft was out at sea. The demonstration was witnessed by Chief John Kenlon, Fire Commissioner John J. Dorman and Chief John J. McElligott of the Marine Division on the Fireboat John Purroy Mitchel. The boat was equipped with a short wave radio set.

The land station was equipped with a short wave radio telephone transmitter and receiver and a long wave receiver which is required of such stations for maintaining a constant watch for S. O. S. distress signals.

The experimental conversation was of a routine nature. The Deputy Chief said that during the Commissioner's absence four fourth-grade firemen had arrived at his office for assignment. Commissioner Dorman communicated his orders.

The value of shore to boat communication lies in the ability for the land station to communicate orders to the marine officers at all times. Frequently it becomes necessary to countermand calls, and long unnecessary runs are avoided.

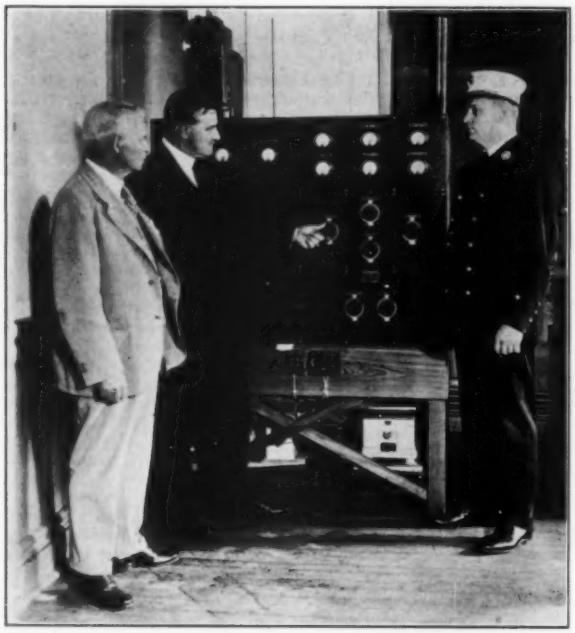
Several well known fire department officials in letters addressed to FIRE ENGINEERING, have expressed themselves as being in favor of radio installations on fireboats.

Fire Commissioner Dorman writes, "We consider the installation of two-way radio communication, between our fireboats and their land headquarters essential to the efficient operation of the fleet."

Edward Grenfell, Chief, Portland, Ore., writes, "The installation of radio equipment, in my opinion, would simplify the operation of these units in this port.

Communicating by Radio from the Fireboat to the New York City Land Station

"Our boats often make runs from five to ten miles. To date, no satisfactory system has been worked out for turning them back when it has been found their services are not required at the fire. A radio system would solve this problem and save wear and tear and other operating expenses on boats. It will get them back into service sooner for the answering of subsequent alarms and also make it possible for the officers on shore who may be in charge of waterfront fires, to communicate with the officers on the boat and direct its movements. This is often difficult under the present arrangements."



Testing the Apparatus on the "John Purroy Mitchel"
From left to right, Chief John Kenlon, Fire Commissioner John J. Dorman, and Deputy Chief John J. McElligott of the Marine Division.

Fire Commissioner Edward F. McLaughlin of Boston is also in favor of radio installations on fireboats. He said:

"For several years now the city of Boston has had an effective operation of an intercommunicating radio system.

"The main station of WEY is at the fire alarm station in the Fenway. This is a sending and receiving station. There are stations on each of our three fireboats—KFPA, KFPC, and KFPD.

"These are also sending and receiving stations. As soon as a fireboat leaves its dock for any purpose whatever, it gets into communication with fire alarm stations by radio and keeps in constant touch until it returns to its dock where telephone communication is re-established.

"The radio has proven invaluable as an aid in protection to waterfront property on a few occasions since its installation. The direction of boats to fires on islands in the harbor or further down the bay has been effected by instructions over the radio from the fire alarm office.

"During the past few months one of the fireboats has been assisting in police patrol work in the harbor and while it is away from its dock it has kept in constant communication with the fire alarm office so that it could be called for fire duty at any time.

"I believe that Boston is the first if not the only city in the country which has sending and receiving stations on each of its boats and at fire alarm headquarters."

Norton, Mass., Has Own Department—A Fire Department has been started in Norton, Mass., with Harold Wetherell as Chief.

Missouri Towns Plan Short Fire School—A short fire school is being planned to be held in Bonne Terre, Mo., during the summer. It is expected that about fifteen municipalities will be represented. The school is being arranged through the cooperation of the Missouri Inspection Bureau.

CORRESPONDENCE

Removing Water from Cellars

To the Editor:

After I had read your interesting Round Table discussion on the methods used in removing water from cellars, I believed you would be interested in some experiences that the St. Louis Fire Department has had in this field.

Our department is frequently called to drain water from cellars, flooded as the result of a fire or from other causes. When basements become filled with water because the department has fought a fire in the building, we drain the cellar along with other basements in the immediate vicinity at no charge to the occupants or owners. We do not consider our job has been completed until the water has been removed and the place cleaned up. We have followed this policy for a number of years.

Whenever our department is called to drain water from basements that have been flooded from other causes than the result of fighting a fire, we charge the property owner or leaseholder $10 an hour. We have had no complaint because of this charge for the process of removing the water is rapid and a general cleanup follows.

The use of a pumper is absolutely prohibited for draining basements. We have been using the M & M Siphon for the past four years, as this unit is capable of delivering between 15,000 and 20,000 gallons of water hourly and by its use we have been relieved of the necessity of using our pumpers and running the risk of ruining them or endangering the efficiency of the pumpers from foreign matter passing through.

I cannot recommend the use of this siphon too highly and further advise that those we have in use have paid for themselves many times as well as being the means of placing as high as $3,000 a year in our firemen's pension fund.

We are not called upon to drain basements or to do other work of this nature for other city departments because our Streets and Sewer Department and our Water Department both use M & M Siphons.

Very truly yours,
A. W. MEIER,
Master Mechanic, St. Louis Fire Department.

Staten Island Boosts Chief Spencer

For twelve years, Battalion Chief John Spencer of the New York Fire Department has been stationed on Staten Island and during that time he has often acted as deputy chief of the eighth division which covers Staten Island.

He has been in charge at a number of well known major fires. Chief Spencer was in charge the day the island had two large fires break out at about the same time, one at Midland Beach and the other at the old Medical Center in St. George. He was in charge of the spectacular fire that greatly damaged the St. George Gardens unit, and when Chief Kenlon came over from Manhattan to take charge, he commended the good work of Chief Spencer.

A rather lengthy editorial appears in a recent issue of the Staten Island *Herald* praising the excellent record of the battalion chief who is now listed as number two on the waiting list for appointment as deputy chief. The editorial states, "We hope that every Staten Islander is pulling for Chief Spencer as hard as we are."

Smoky Fire Ties Up Train Terminal

Three firemen were overcome in an underground fire that filled the Pennsylvania Railroad Station in New York City with heavy smoke and even the nearby General Post Office and adjoining streets. More than one thousand feet of pipe sheathing above the tracks were destroyed.

Smoke was detected over the railroad tracks leading from New Jersey at 8 a.m. Railroad apparatus was called but it was twenty minutes before the men were able to locate the fire, due to the heavy smoke. After fighting the fire for a half hour, the New York Fire Department was called. Engine 19 was the first to arrive and one of its members was overcome. Two firemen saw him fall and picking him up they started for the elevator leading to the street. It was fifteen minutes before, stepping carefully to avoid the third rail, they were able to reach the street. There the rescuers collapsed.

The origin of the fire was not discovered. Damage was estimated at $30,000.

Chief Miller of Richmond, Ind., Dead

Chief E. E. Miller of Richmond, Ind., since 1906 and considered the dean of fire chiefs in Indiana, died on February 11, at the age of fifty-eight, while fighting a fire.

He was overcome by smoke while fighting a residential fire and succumbed shortly after he was carried out of the building. Three days previous he had contracted a severe cold while fighting a greenhouse fire at a building opposite the one where he met his fatal accident.

Chief Miller was a member of the Elks, Eagles and Odd Fellows.

Inhalator Saves Baby Girls

Volunteer firemen of Arnold, Pa., with the use of an H-H inhalator were successful in saving the lives of seven months old twin girls who were suffering from pneumonia. The men applied the inhalator for two days until the danger period was over.

For three days the attending physician used an oxygen tank furnished by a hospital in New Kensington but this

Member of the Arnold, Pa., Department With the Inhalator Used on Infant Twin Girls Suffering From Pneumonia

treatment was not successful. Firemen volunteered their services and were victorious in helping the infants through the critical period.

Elements of Fire School Teacher

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In presenting the subject the teacher should aim to teach so that the most backward pupil will understand. In doing so probably every one in the class will grasp it so clearly that the subject will take on a new interest. This is no easy matter and means conscientious preparation and an infinite amount of patience on the part of the teacher who must pursue his work assiduously.

The teacher must clothe his subject in attractive language and give it in as attractive and interesting manner as possible. There is no more room for a sloppy presentation of a subject to a class than there is for an untidy, uncarefully dressed person.

Advantage of the Element of Surprise

One of the greatest things in the presenting of a subject to a class is to keep introducing the element of surprise. In other words the class must be on its toes, always expectant, never sure of what is coming next.

The teacher who gives careful preparation to his subject, can get his pupils into the right attitude of receptivity and who understands how to present his subject in the proper form, will be able to render a worthy and lasting service to his organization, his community, and his country.

(Excerpts from a paper read before the annual convention of the International Association of Fire Chiefs at Winnipeg, Can.)

Eau Claire, Wis., to Buy Pumper—Eau Claire, Wis., has invited bids for a 1,000-gallon pumper.

Boston Department Holds Annual Ball

The 52nd Annual Ball of the Boston Fire and Protective Departments was held in Mechanics' Hall on Huntington Avenue, Boston, February 2.

There was a concert by the Boston Fire Department Band, followed by the Grand March and then dancing. The Reception Committee was composed of Fire Commissioner Edward F. McLaughlin, Chief Henry A. Fox, Superintendent, Peter E. Walsh, of the Protective Department; Lieut. F. J. Dobbratz, Capt. John H. Leary, District Chief Joseph W. Shea, Capt. W. J. Mahoney, E. J. C. Powers, James F. McFadden, James J Higgins, Lieut. M. J. Gleason, and Dr. W. J. McNally, Medical Officer, B.F.D.

The Floor Marshal was Lieut. F. J. Dobbratz and the assistant marshals were James F. McFadden and J. F. Harrington. Capt. John H. Leary was chief of aids.

There was a very large attendance, and the number of officers and men participating in the Grand March was the largest on record. Commissioner McLaughlin led the march with Mrs. Dobbratz.

Among the guests were Police Commissioner and Mrs. Eugene C. Hultman, Ex-Fire Commissioner Theodore A. Glynn, Ex-Chief Daniel F. Sennott, Chief Selden R. Allen, of Brookline; Chief Thomas A. Qualey, of Medford; Chief William Coulter, of Framingham, and Deputy Chief Fred Webb, of Weymouth.

HARRY BELKNAP.

R. D. Wirt, Manufacturer, Dead

Reuben David Wirt, seventy-eight years old, President of the Wirt & Knox Manufacturing Company, Philadelphia, took his own life at his home in Miami Beach, Fla., rather than go to a hospital for a major operation.

He was an extensive Miami and Miami Beach property owner and had resided in Florida forty years of which twelve years were spent at Miami Beach. Since Mr. Wirt was told that an operation was necessary, he said several times that he was going to jump into the ocean. His nurse found a .32 calibre pistol in his wardrobe but she did not remove it, as he had instructed her not to disturb anything in his room.

His family found him in his room, across a bed, with a pistol in his hand, and he was removed to the St. Francis Hospital, where he died two and a half hours later.

Mr. Wirt was born in Ohio and retired from business several years ago. He continued as President of the Wirt & Knox Manufacturing Company, manufacturers of industrial fire equipment and appliances for small town fire departments. He had been a widower for twenty years and is survived by a daughter.

Volunteer Firemen Meet in Bergenfield

A meeting of the New Jersey and New York Volunteer Firemen's Association was held in Bergenfield, N. J., on January 30. An old time minstrel show was arranged for the entertainment of the firemen by members of the Montvale, N. J., Fire Department.

A case was reported of a Tappan, N. Y., fireman who was discharged by the West Shore Railroad because he had reported late for work after responding to a severe fire.

The 1931 convention will be held in Westwood, N. J., on July 11. A mardi gras is being planned for the evening.

Old Knox Apparatus Damaged in Passaic

Contrary to press reports, fire apparatus that was damaged in Passaic, N. J., recently was an old converted Knox machine and not an Ahrens-Fox unit.

The accident was caused by the bursting of the fly wheel of the engine and it is the second of this nature that has occurred in the city during the past fifteen years. The first occurred on a comparatively new machine, also of Knox make. The Passaic Fire Department had four of the old Knox chemical and hose wagons and they were changed over to straight hose wagons with two Morse turret pipes, and each apparatus carried 1,000 feet of 3-inch hose.

While it is unknown what caused the accident other than the accepted theory that there was a flaw in the casting, the results were conspicuous. Sixteen windows in the house directly opposite the spot where the flywheel burst, were damaged and a man who was passing by at the time was struck by a piece of flying metal.

Newly Elected Chiefs

The following have been elected to head the Fire Departments in their respective municipalities:

Milford, Utah—Eugene Singleton
Somerville, N. J.—Wm. S. McCrea
Mt. Methel, N. J.—Chas. H. Wittman
Princeton, N. J.—John A. Mooney
Shelter Island Heights, N. Y.—F. A. Myers
Iron River, Wis.—C. R. Miller
St. Johns, Mich.—Frank Coy Kendall
Gettysburg, S. Dak.—Geo. Adams
Grand Marais, Minn.—B. A. Rude
Mendota, Ill.—M. J. Eisesser
Montesano, Wash.—Joseph Healy
McClellandtown, Pa.—Harvey Hopkins
Plymouth, Wis.—Geo. Kilb
St. Lawrence, Wis.—H. A. Mueller
Mott, N. D.—Matt Meissner
St. Ignace, Mich—John Moore
Marble Rock, Iowa.—J. S. Jesmore
Camas, Wash.—Frank Province
Armona, Cal.—L. C. Saylor
Mammoth, Utah—Edwin Simpson
DuBois, Pa.—Fred Peterson
Hermiston, Ore.—George Wagner
Cottonwood, Ida.—V. A. Dyke
Placerville, Cal.—Mark Tetrault
Donaldson, La.—Mateo Randazzo
Cadott, Wis.—W. S. Williams
New Richland, Minn.—O. S. Martinson
Webster, Wis.—G. E. Malone
Tisch Mills, Wis.—Joseph Schleis
McKinney, Tex.—J. S. McKinney
Fredericksburg, Tex.—Lawrence H. Krauskopf
Mt. Angel, Ore.—Paul Schwab
Seaford, Del.—Cyrus B. Favenger
Cardiff, N. J.—Fred Wetzell
Lu Verne, Iowa—L. F. Smith
Grapevine, Tex.—C. C. Coleman
Buda, Ill.—Alden Stinson

McElligott Made Assistant Chief

(*Continued from page* 126)

and a fireboat had been wrecked and her pilot killed, Chief McElligott's cool-headed strategy resulted in his ultimate invasion of the ship's interior where he led a stiff and unbending battle resulting in complete extinguishment without injury to or loss of an additional man.

When a special committee was organized last Spring to revise the city ordinances on combustibles in order to put "teeth" into the law regulating motion picture studios, as a result of a fatal fire in a movietone studio in Harlem in December 1929, Chief McElligott was one of three chief officers selected as members of that committee.

Chief McElligott's name appears five times on the Department Roll of Merit for extraordinary performance and accomplishment in the line of duty.

Chief McElligott recently again came to public notice as the commanding officer of the fire fighting forces at the two-nines alarm fire in the Lincoln Square Building and a few nights later at the big fire which destroyed a brewery and other buildings on Staten Island.

Examinations Urged for Paid Fire Chiefs

An act has been introduced in the New York State Legislature to amend the general municipal law in relation to the appointment of Chiefs of paid Fire Departments. The measure was introduced by T. R. Horn of Nanuet, N. Y., and reads as follows:

Section 1. Chapter twenty-nine of the laws of nineteen hundred nine, entitled "An act relating to municipal corporations, constituting chapter twenty-four of the consolidated laws," is hereby amended by inserting therein a new section to follow section two hundred-a to be section two hundred-b, to read as follows:

200-b. Appointment of chief of paid Fire Department. The Chief of every paid Fire Department hereafter organized to take the place of a volunteer Fire Department shall be selected after competitive examination. Preference shall be given over all other persons in such appointment to officers and members of the volunteer Fire Department serving the municipality in which the appointment is to be made, who qualify under such examination.

2. This act shall take effect immediately.

He has also introduced an amendment to the state laws to increase from five hundred to seven hundred dollars, the amount paid to volunteer firemen injured while performing their fire department duties.

Thorwaldson Goes With Eureka

The appointment of E. O. Thorwaldson as Manager of the Des Moines, Iowa, office of the Eureka Fire Hose Mfg. Co., has been announced by J. H. Green, President of the company.

Mr. Thorwaldson's office, located at 511 Hubbell Bldg., Des Moines, covers the territory embracing the state of Iowa.

The Round Table

(*Continued from page* 128)

to the scene of the fire, and as he is responsible for the safety of the apparatus and men he should be in a position to give the driver necessary directions.

(b) Upon answering an alarm from a box, the fire may be located several blocks from the box which is pulled, this officer by riding on the front seat has a chance to observe the vicinity as he is approaching the box and possibly discover the location of the fire, thus being able to go directly to the fire without going to the box, thereby arriving with as little delay as possible.

(c) Engine connections, hydrant to be used, layout of hose and many other things incident to extinguishing the fire have to be supervised by this officer after the fire has come into view.

If this officer should ride in any other place on the apparatus I do not believe he would be in a position to properly observe these conditions and it would cause delay and confusion.

I also realize that there is a chance that the driver may become ill or suffer from a dizzy spell but that is very remote.

Walter S. Webber, Chief, Mamaroneck, N. Y.: The commanding officers of the various companies such as captains and lieutenants must qualify as drivers before being advanced to the above positions.

In this way they are familiar with the working of the motor and pumps as well as driving the apparatus.

In case the driver should become ill, the officer in charge is well able to take control of the apparatus when rolling, being at the driver's side.

There are no laws that I know of compelling same, but it has always been a general rule in our department.

D. H. Shire, Chief, Mason City, Iowa: This is an old, old question and has come up time and time again even when we had the horses.

An officer in charge of a piece of fire apparatus belongs on the seat next to the driver and it is not necessary to go into detail to explain why or if it is necessary that he can drive.

If the driver becomes ill, dizzy, faints, or drops dead, the average officer would shut off the motor, apply emergency brakes, and make every effort to guide apparatus until it stopped.

If an accident happens—let me quote from actual happenings:

While I was captain, my company responding to an alarm traveling at about forty miles an hour had the right steering knuckle break. The steering wheel was useless and although all the men on the apparatus could drive, not one attempted to leave his station nor did I interfere with the driver. He applied both brakes and he went over the curb and into a yard and up against a dwelling.

Just recently while passing a street car a piece of apparatus in this city hit an automobile and the force of the compact knocked out the driver but as he went out he pulled the emergency brake tight, even while unconscious he had hold of it, and it was set so tight that it took some hard work to release it.

I cannot consider this question important for all our apparatus is built for one man to drive. Where two attempt to drive, there is trouble—even in a pleasure car.

My advice is to train a driver until he is capable and then to let him handle the apparatus under the direction of the officer in charge. If he is ill, use the relief driver.

C. E. Carlson, Chief, Tacoma, Wash.: Our department rules provide that the man in charge of the company rides on the seat with the driver. In case of a two-piece engine company, he rides on the seat of the hose truck.

I believe the men who ride on the back of the apparatus are as safe as the men who ride in the seats and have a better chance to save themselves if anything should happen.

Most officers and men in the fire department have enough knowledge of driving the apparatus to help if an accident such as referred to in this discussion should occur.

Men riding on fire apparatus properly handled are in no more danger than passengers on a stage line that transport from thirty to fifty passengers long distances and only are provided with one driver.

Geo. Haggarty, Chief, Berkeley, Cal.: In this department, two men occupy the seat of all fire apparatus responding to a call—one a captain, or lieutenant, and one a driver. However, the men on the back of the apparatus are always protected, as the entire personnel of the department is instructed in driving any type of equipment.

E. F. Lester, Chief, Athens, Ga.: The officer riding with the driver should be capable of handling any part of the apparatus, and all men should be promoted on their ability.

An officer should handle a truck as well or better than the regular driver. I also believe that every man in the department should be taught to drive fire apparatus.

J. E. Park, Secretary to Chief, Cambridge, Md.: We do not have regular or appointed apparatus drivers in our department. There are quite a number of our men who are capable for this work and the first one to arrive at the engine house is the one who drives. Much faster time is made in this manner and we do not have to face the liklihood of several regular or appointed drivers being absent.

T. R. Patton, Chief, Centralia, Wash.: I think that the head of the department is entirely responsible for letting a condition like this exist.

In this department every man is capable of taking either the captain's or driver's place if the emergency should arise.

E. D. Kenyon, Chief, Turtle Creek, Pa.: The driver and his assistant occupy the seats in our department on apparatus. We have two trucks and eight men as drivers. Our men are properly protected. If they are not it is the department's fault. We must work on a safety-first plan at all times.

The city should be held responsible, I believe, if an accident of this sort arises and there are not two drivers on the truck.

George Ruey, Chief, Canton, Ill.: Our department is just a small one and all firemen know how to operate each piece of apparatus. I believe this should be done in order to protect the public as well as the firemen.

Ward A. Wantz, Chief, Anderson, Ind.: I have not had that condition you refer to occur here as any man who rides on the front seat must be able to operate the apparatus.

L. B. Rapp, Chief, Lynchburg, Va.: In our case, practically all the firemen, particularly the officer who is occupying the seat beside the driver, are capable of driving the apparatus should the driver become suddenly ill or suffer from a dizzy or fainting spell. All firemen in our fire division are instructed how to drive and operate the apparatus they ride.

J. W. East, Chief, Hopkinsville, Ky.: I think there should be two drivers in the seat should the regular driver become ill and unable to handle the apparatus.

J. Gibbs, Chief, Montclair, N. J.: All captains and lieutenants in our department can drive so that if a case should arise such as you mention, the captain or lieutenant would be able to handle the apparatus.

P. Leonard, Chief, Erie, Pa.: I believe that if this condition should arise, regardless of whether or not the man next to the driver could control the apparatus, a serious ac-

Method Found to Eliminate Jumbled Fire Locations

An Ediphone, a letter dictating machine, has been installed in the fire alarm headquarters of Portland, Ore., to eliminate the jumbled addresses that are sent in over the telephone by excited persons. The machine is connected up to the switchboard, and if the operator fails to catch the address, he runs off the Ediphone record which has made a transcription of the message.

cident would occur before he could take care of the situation.

G. Rehm, Chief, Mobile, Ala.: All officers and captains in the department are experienced drivers. We have what we call 1st, 2nd, and 3rd drivers. The captains are also drivers, so we are always protected if anything should happen.

W. J. Dunn, Chief, Plainfield, N. J.: In our department the front seats of our fire apparatus are occupied by both a regular driver and an officer who is capable of driving the apparatus.

Wm. Briggs, Chief, Shelbyville, Ind.: My department personnel consists of fifteen members, all of whom can drive our apparatus. I can and do drive occasionally myself. Apparatus drivers are changed on the 1st and 15th of each month. Department members reaching the fire on the first truck start whatever operations possible, such as connecting hose, setting up ladders, running additional pumper lines, etc., etc. Every man knows his job and it is my idea that no man shall stand around and wait for other members to do a task when he is capable of doing such himself. There is no buck passing permitted, and should a member not do as he is told he must shoulder the blame if there is such.

With a limited number of men available I find this method of procedure quite effective and intend to follow same until I learn of something better.

Five of my men are capable of operating and maintaining our fire alarm system, which means there will always be some one on duty familiar with the system.

I believe a good fireman wants to know all he can learn about his department, not just a part of it, and thereby serve his city in a more efficient manner.

W. F. Morgan, Chief, South Norfolk, Va.: I fully realize the importance of this question and wish to state that I always ride with my driver on the front seat. Men on the back of the truck don't know what is going on in front. On one occasion I had to take over the wheel from a driver due to illness.

* * *

ANSWERS TO PREVIOUS QUESTIONS

The following answers are in response to the question relating to the employment of fire apparatus for draining cellars and the charges made for this work, if any:

John H. Monroe, Chief, Savannah, Ga.: This department is called on quite frequently to drain water from cellars. This work is done with an Evinrude portable high pressure pumper.

I do not believe a charge should be made for this work except in cases of gross negligence on the part of tenants or property owners. In the long run the public pays for this work through taxation.

Other city departments are not equipped to pump out cellars, and we therefore do this work for them.

William Nill, Chief, Hammond, Ind.: We are called quite often to pump out cellars and basements, but without results, as I don't believe in using fire apparatus pumpers for that kind of work.

In the first place the cost of a pumper is too high for pumping sewerage, and second, you are taking a great chance of putting your machine out of service in a very short time. Therefore I think a common plunger pump will do the work without any danger of damage to the pump itself. Such work I believe should be taken care of by the Sewer Department. If there is no such department, then it should be turned over to the Street and Alley Department.

You will not receive any credit on insurance rates for your city by doing that kind of work with your pumpers.

Earl J. Reynolds, Chief, LaPorte, Ind.: The pumping of water out of cellars has been a common practice here for years. We nearly ruined one pumper doing that sort of work. Now we use a siphon made by the P-B Products Company, Inc., which does the work with no wear on the apparatus. The siphon has been used several times with just forty-five pounds hydrant pressure. We are taking no chances by getting a large piece of apparatus stuck, and in case we are using the pumper for added pressure, it is just a matter of seconds to cut and run.

As long as the public is paying for this apparatus I don't think we should make a charge for its use. We have used it to good advantage to drain out basements after a fire, thereby cutting down the water damage.

The Water Department has a pump of its own and they very seldom call on us for help.

Two Stations Opened in Bristol, Conn.

With appropriate ceremonies which were attended by city officials, members of the Fire Board and the general public, the two new modern fire stations recently erected in Bristol, Conn., under the supervision of Chief John H. Hayes, were placed in commission. Station No. 5 is situated at the corner of Lewis Street and Farmington Avenue and is of the bungalow type in the English style of architecture.

The building is two stories high, of brick construction, with face brick and half timber interiors and roofed with slate shingles of variegated green and purple colors laid in random widths. The gables and dormers are stuccoed with exterior in a rough cast finish. On the apparatus floor is located the company's new 1,000-gallon American-LaFrance pumper with an 85-gallon booster tank and other standard equipment. The apparatus floor also contains a recreation room, the finished flooring of which is laid in log cabin style.

The second floor contains the officers' room and dormitory for the men, with adequate locker space, tiled bathroom and shower. A rack for drying hose is located in the basement.

The new No. 2 station, which is located on Terryville Avenue in the western end of the city, is also of the bungalow type but erected in the Colonial style of architecture. The building consists of two stories with basement and is of brick construction laid in Flemish bond with limestone finish and covered with slate. It contains an apparatus room designed to house two pieces of apparatus and complete fire fighting equipment. For the present there is one 750-gallon American-LaFrance pumper stationed in the building.

Upper—Station No. 2 and Lower, Station No. 5

A light brown salt glazed brick wainscoat, laid in white cement, is formed to pattern around the walls of the apparatus room with a dado cap and base of the same brick. The first floor also contains the recreation room, finished in log cabin style. The second floor contains the dormitory with locker room, tiled bathroom and shower baths.

As in the same manner as Station No. 5, this building is heated by a modern steam heating system generated by an oil burner controlled by thermostats. Both stations are laid out with concrete driveway, sidewalks and the ground in front of the stations has been graded and arranged for grass plots. Plans for both buildings were drawn by Harold A. Hayden, architect, of Bristol. The approximate cost of the two stations was $45,000. There are thirty-six permanent men in the Bristol fire department. The two-platoon system has been in effect there for some time past and its installation was effected through the efforts of Chief John H. Hayes, who has been head of the department for the past ten years.

THOMAS F. MAGNER.

FIRE DEPARTMENT ACTIVITIES

Apparatus Delivered to Rochelle, Ill.—Boyer fire apparatus has been delivered to Rochelle, Ill.

Greenfield, Mass., to Install New Fire Alarm—Greenfield, Mass., is planning the installation of a new fire alarm system.

Brockton, Mass., May Buy Ladder Truck — Brockton, Mass., is considering the purchase of an aerial ladder.

Carmel, N. J., to Form Company—Steps have been taken to form a volunteer Fire Department in Carmel, N. J.

Elmhurst, Ill., Awaiting Apparatus—Elmhurst, Ill., is expecting the early delivery of Mack fire apparatus.

Pumper Delivered to Crooksville, O.—A 500-gallon pumper has been delivered to Crooksville, Ohio.

Suffern, N. J., to Buy Pumper—Suffern, N. J., has decided to purchase a Mack 750-gallon pumper.

Pumper Delivered to Plainview, Tex.—A 500-gallon pumper has been delivered to Plainview, Tex. It is equipped with a booster tank.

Fire House Opened in Pleasant Valley—A new fire house has been opened by the volunteer Fire Department of Pleasant Valley, Ia.

Random Lake, Wis., Has New Pumper—A Pirsch 600-gallon pumper has been delivered to the village of Random Lake, Wis.

Clinton, Mass., Has New Combination Car — Clinton, Mass., has placed a new combination hose wagon in service equipped with a booster pump.

Yarmouth, Mass., to Establish Department—Yarmouth, Mass., has voted $17,000 for the purchase of fire equipment. A fire department will be established.

Holyoke, Mass., May Buy Fire Apparatus — Holyoke, Mass., is considering the purchase of two pumpers and an aerial ladder.

Boston Firemen Aid Unemployed—Members of the Boston Fire Department have contributed $1,675 for the unemployment fund.

Canton, O., to Erect Fire House—Bids have been opened in Canton, Ohio, for the erection of a two-story fire station to contain lounge, kitchen and dining room.

New Buffalo, Mich., Buys Apparatus—The village and township of New Buffalo, Mich., have combined in the purchase of a chemical car.

Arcata, Cal., Defeats Improvement Plans—The council of Arcata, Cal., rejected all bids for the proposed fire alarm boxes and equipment.

Cleveland, O., to Erect Fire House—Cleveland, Ohio, is considering the erection of a two-story brick fire station to cost $30,000.

Apparatus Delivered to San Benito, Tex.—A pumper and a ladder truck have been delivered to the Fire Department at San Benito, Tex. The fire station has been enlarged to accommodate the new units.

Erie, Pa., to Have New Headquarters—Chief Michael Leonard, of Erie, Pa., said that the new year will see a new headquarters building completed and that the fire box call system which was started three years ago will be finished.

Cincinnati to Have Combination Station—Cincinnati, Ohio, has invited bids for the construction of a combined fire and police station to be constructed of brick, two stories high with a basement. Cost has been estimated at $45,000.

Madison Fire Apparatuts Damaged—Due to slippery streets, fire apparatus of Madison, Wis., skidded and crashed into the curb. Both front wheels were broken. No one was injured.

Oil Men Asked to Stock Foam Powders—Chief Ed Kirkland of Ottumwah, Ia., has asked managers and owners of bulk oil stations to maintain a supply of foam powder as an emergency measure.

Radio Planned for Chief's Car—Chief Richard Kelley of Davenport, Ia., has requested that a short wave length radio set be installed in his car tuned to receive messages from the police broadcasting instrument.

Warehouses Destroyed in Burlington, Vt.—Two large warehouses in Burlington, Vt., were destroyed the morning of January 1, with a property loss of $150,000. Firemen suffered from severe cold while trying to save the two-story buildings.

Nine Injured Fighting Big Fire in Lowell—Nine firemen were injured in a general alarm fire in Lowell, Mass., which caused $100,000 damage to a toy manufacturing plant and warehouse. Aid was called from Dracut, Tewksbury, Chelmsford and Billerica.

Fire House Finished in Lansing—A fire station costing $33,000 has been completed in the eighth ward of Lansing, Mich. While the building is complete, it is said that the Council has done nothing towards furnishing it with equipment or personnel.

Chief Blakely, of Selma, Ala., Killed—Chief John W. Blakely, of Selma, Ala., was killed when his car overturned in a ditch. He was enroute from Montgomery to Selma. A fireman who accompanied the Chief received a broken leg and lacerations as a result of the accident.

Fire Officer to Become Minister—Capt. Joe Gibbs, of the Waterloo, Ia., Fire Department, who has been a fire fighter since December 16, 1903 and captain for eighteen years, has resigned from the department to devote his time either as pastor or a missionary in the Methodist Church.

Valhalla, N. Y., Had Paid Drivers Since 1929—In a previous issue there appeared an item to the effect that Valhalla, N. Y., was to have two paid drivers. This community has had two paid drivers since December 1, 1929. The day man serves from 8 a.m. to 6 p.m., and the night man from 6 p.m. to 8 a.m.

Lowell, Mass., Widow to Receive Pension—The City Council of Lowell, Mass., has voted a pension of $1,000 a year to the widow of Captain George McDonald who was fatally injured while working at the Nashua, N. H., fire with Lowell companies that were sent to aid the local department.

Former Zanesville, O., Chief Dead—William H. Tanner, fifty-eight years old and formerly Chief of Zanesville, Ohio, died as the result of acute indigestion. He was Fire Chief for thirty-three years and resigned last May due to ill health. Mr. Tanner is survived by his widow, a daughter and three sisters.

Lake Region Firemen's Association Formed—Five departments were represented at the first regular meeting of the Lake Region Firemen's Association that was held at Detroit Lakes, Minn. H. J. Davies, of Perham, was elected President and C. B. Connell, Detroit Lakes, Secretary-Treasurer.

House Fired Four Times in One Night—There is nothing like being persistent. Members of the Pelham, N. Y., Fire Department were called out four times in one night to quell a blaze in an old building. Incidentally, it was the thirteenth time in three years that fires have originated in this structure. Boys are believed to have started the blaze.

Burlington, N. J., Plans Improvements—Burlington, N. J., is planning to float a bond issue for the purchase of an aerial ladder to replace the present tractor drawn Gleason & Bailey truck. Improvements are also being considered for the fire alarm system. In addition, the township Fire Department is contemplating the purchase of a 500-gallon pumper with booster tank.

Chief Terrell Has New Rescue Car—Chief John Terrell, of the Atlanta., Ga., Fire Department, has placed a new rescue and first aid car in service. It carries all the latest first aid and life saving appliances, and is manned by a captain and three firemen. On its first run it was successful in reviving a woman who was carried into a drug store and pronounced dead by the druggist, who had tried first aid treatment.

Ohio Firemen Favor Retirement System—The Ohio Association of Fire Fighters went on record as favoring the proposed retirement system for state employees now being considered for submission to the legislature. The bill, as it is being drafted, provides for four per cent of each employee's salary not to exceed eighty dollars, to go into a common fund with a like amount by the state. An employee may retire when fifty years old or he may retire at the compulsory age of seventy.

PROPOSED IMPROVEMENTS

Minerva, Ohio—Village council voted to issue bonds to the amount of $4,000 for purchase of new piece of fire apparatus.

Canandaigua, N. Y.—Election to be held Feb. 26 to vote on $15,000 bond issue for purchase of new pumper for fire department.

Mamaroneck, N. Y.—Village to vote at election in March for purchase of new piece of apparatus for Volunteer Hose Co. at cost of $15,000.

Killawog, N. Y.—City voted bond issue for purchase of pumper, hose and equipment, also fire station in district. Claude Hilsinger, Chairman Board of Fire Commrs.

Franklin, Penn.—City Council authorized city clerk to advertise for bids to furnish city with new pumper from 500 to 700 gals. capacity, equipped with booster pump, 100 gal. chemical tank, etc.

Fitchburg, Mass.—Reports state Chief Henry J. Hyatt requested an additional 750 gal. pumper.

North Andover, Mass.—Town Warrant for 1931 to include article to see if town will vote to appropriate $9,500 for purchase of new ladder truck.

Logan, Utah—Reports state Fire Chief C. W. Rapp recommended installation of 28 box fire alarm system.

Hudson, Mass.—Chief M. P. Mitchell, requested new fire alarm system and compressed air whistle for central fire station.

Danielson, Conn.—The purchase of a new pumper for fire department may be considered at annual borough meeting in April.

Salesman Wanted

Experienced Fire Apparatus Salesman who can furnish reference, by a reliable and well established factory, building a complete line of fire apparatus. Address: Box 355, care FIRE ENGINEERING, 24 West 40th St., New York City.

1-21, 2-4

Arlington Fire Apparatus Wrecked

An Ahrens-Fox pumper of Arlington, N. Y., responding to an alarm, was swerved to one side to avoid crashing into a commercial truck that speeded out of an intersecting street. The pumper jumped the curb, knocked down a 10-inch telegraph pole and ended with its nose against a building. One fireman was injured.

The New York City office of the fire apparatus company was notified, and within seven hours, although the roads

Pumper Wrecked in Arlington, N. Y., While on Way to a Fire

were covered with ice, a demonstration pumper was delivered for service until permanent arrangements could be made.

Fire Chief Wanted

A large industrial plant located near Oswego, N. Y., has opening for an experienced fire officer to serve as chief of their industrial fire brigade. Applications from retired fire department officers will be considered, if experience has been satisfactory. Further information may be secured by writing. H. E. Cook, 225 Fifth Ave., New York.

Springfield, Ill., to Erect Fire House—Springfield, Ill., is planning the construction of a fire station at Yale Boulevard and Ash Street. The city owns land at that location.

Legion Post Buys Fire Apparatus—The American Legion Post of Tualomne County, Cal., has purchased fire apparatus for the protection of rural property. The apparatus will be housed and serviced by the Sonora Fire Department.

CONVENTION DATES

Feb. 18—FIRE CHIEFS' EMERGENCY PLAN OF WESTCHESTER COUNTY. Regular meeting, Fire Headquarters, Tuckahoe, N. Y. Secretary-Treasurer, E. Riviere, Fire Headquarters, Larchmont, N. Y.

March 9-11—SOUTHWESTERN ASSOCIATION OF FIRE CHIEFS. 4th Annual Convention, Dallas, Tex. Secretary, Chief J. E. Taplin, Fire Department, Blackwell, Okla.

April 27-29—TEXAS FIREMEN'S TRAINING SCHOOL. 2nd Annual Meeting, Agricultural and Mechanical College of Texas, College Station, Tex. Director, H. R. Brayton, College Station, Tex.

May 11-16—NATIONAL FIRE PROTECTION ASSOCIATION. 35th Annual Meeting. Toronto, Ont., Can. Managing Director, Franklin H. Wentworth, 60 Batterymarch St., Boston, Mass.

May 21—IOWA STATE FIRE CHIEFS' ASSOCIATION. Annual Convention, Ames, Iowa. Secretary-Treasurer, Chief L. R. Morris, Ames, Ia.

May 23—NEW JERSEY STATE FIRE CHIEFS' ASSOCIATION. Quarterly Meeting, Madison, N. J. Secretary, Fred. A. Trowbridge, 17 South Street, Morristown, N. J.

May 25-27—OKLAHOMA STATE FIREMEN'S ASSOCIATION. 37th Annual Convention, Oklahoma City, Okla. Secretary-treasurer, Charles Slemp, 820 East 19th Street, Oklahoma City.

June 3-5—NEW MEXICO STATE FIREMEN'S ASSOCIATION. 9th Annual Convention (Combined with Firemen's Short Course), Clovis, N. M. Secretary-Treasurer, Theodore A. Rosenwald. Albuquerque, N. M.

June 9-11—TEXAS STATE FIREMEN'S ASSOCIATION. 55th Annual Convention, Bryan, Tex. Secretary, Olin Culberson, Edna, Tex.

June 9-12—OHIO FIRE CHIEFS' ASSOCIATION. 14th Annual Convention, Akron, Ohio. Secretary, Chief Philip J. Harty, Youngstown Sheet & Tube Company, Youngstown, Ohio.

June 10-12—FLORIDA FIRE COLLEGE. 2nd Florida Fire College, Sebring, Fla. Address, Florida State Firemen's Association Fire College Committee, Chief Anderson, Ft. Myers, Fla., Chairman.

June 11-13—ARIZONA STATE FIREMEN'S ASSOCIATION. 8th Annual Convention, Flagstaff, Ariz. Secretary-Treasurer, H. W. Reggin, P. O. Box 813, Prescott, Ariz.

June 17—NORTHWESTERN OHIO VOLUNTEER FIREMEN'S ASSOCIATION. 59th Annual Convention, Port Clinton, Ohio. General Chairman of Convention, Harry Smith, Supt. Water Works, Port Clinton.

June 17-20—WASHINGTON STATE FIREMEN'S ASSOCIATION. 9th Annual Convention, Port Angeles, Wash. Secretary, S. H. Jenkins, Bellingham, Wash.

June 23-26—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. 9th Annual Convention, Copley-Plaza Hotel, Boston, Mass. Meetings, Paul Revere Hall, Mechanics' Bldg., Huntington Ave. and Exhibits, Grand Hall, Same Bldg. Secretary, Chief John W. O'Hearn, 99 Main St., Watertown, Mass.; Chairman Exhibits, Chief Daniel B. Tierney, Arlington, Mass.; Traffic Manager, George F. Cobb, 744 Albany St., Boston.

July 13-16—MICHIGAN STATE FIREMEN'S ASSOCIATION. 56th Annual Convention, Jackson, Mich. Secretary-Treasurer, H. L. Williams, Ludington, Mich.

July 13-16—MONTANA STATE FIREMEN'S ASSOCIATION. 40th Annual Convention, and Firemen's Short Course, Bozeman, Mont. Secretary-Treasurer, D. E. Moser, Bozeman.

Aug. 5-7—CALIFORNIA STATE FIREMEN'S ASSOCIATION. 9th Annual Convention, Santa Rosa, Cal. Secretary-Treasurer, H. E. Strasser, 1171 Tenth St., San Diego, Cal. Chairman, Convention Committee, Chief William H. Muenter, Santa Rosa, Cal.

Aug. 18-21—FIREMEN'S ASSOCIATION OF THE STATE OF NEW YORK. 59th Annual Convention, place of meeting to be decided later. Secretary, Fred A. Davis, Fort Edward, N. Y.

Sept. 8-10—ILLINOIS FIREMEN'S ASSOCIATION. 44th Annual Convention, Murphysboro, Ill. Secretary, Assistant Chief Roy W. Alsip, Champaign, Ill. Exhibit information, Chief Albert Herring, Murphysboro. Also, 1st Annual Convention, Ladies' Auxiliary of Illinois Firemen's Association. Secretary, Mrs. R. W. Alsip, Champaign.

Sept. 19-22—PACIFIC COAST ASSOCIATION OF FIRE CHIEFS. 38th Annual Convention, Royal Hawaiian Hotel, Honolulu, T. H. Secretary, Jay W. Stevens, 1014 Merchants' Exchange Bldg., San Francisco, Cal.

Oct. 5-8—FIREMEN ASSOCIATION OF THE STATE OF PENNSYLVANIA. 52nd Annual Convention, Wilkes-Barre, Pa. Secretary, Charles E. Clark, 411 Bellevue Ave., Wayne, Pa.

Oct. 14-17—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 59th Annual Convention, Plaza Hotel, Havana, Cuba. Meeting Hall, Asturiano Club. Recording Secretary, Chief James J. Mulcahey, Yonkers, N. Y.; Executive Secretary, Jay W. Stevens, 1016 Merchants' Exchange Bldg., San Francisco, Cal.; Chairman, Exhibit Committee, Chief Charles A. McGinley, East Orange, N. J.

New House Opened in Huntington Park—Fire Station No. 2 has been opened in Huntington Park, Cal. The building is a modern one story brick structure.

Goodrich Praised for Chicago Department—The Manager of the Chicago Board of Fire Underwriters has sent a letter to Fire Commissioner Goodrich of Chicago commendatory of administration of the Chicago Fire Department. He said, "You have improved the efficiency of your department and so far as we can judge, it is now operating in fine spirit and with a personnel of officers and men who are apparently going about their work in the right way."

NEW YORK BUYS 6 MACK PUMPERS
ALL ARE EQUIPPED WITH MORSE
INVINCIBLE NOZZLES

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FIRE PREVENTION ORDINANCE FOR CITIES AND TOWNS

It Establishes Bureau of Fire Prevention—Prescribes Regulations for Hazardous Materials and Processes

(Continued from last issue)

THE following Fire Prevention Ordinance has been prepared by Engineers of the National Board of Fire Underwriters and is recommended by that organization for adoption by cities and towns. While it is not expected that in all cases smaller cities will find need for an ordinance of such length, it is recommended by the Board that a complete set of regulations be adopted in all cases, for even though there may be no immediate need of regulation of a particular hazard, every growing community is sure to have these hazards introduced sooner or later, and it is better to be prepared for them than to develop unrestricted and then try to regulate them. The ordinance is being published in its entirety serially in FIRE ENGINEERING. *Continuation of Part* 11, *Dry Cleaning and Dry Dyeing:*

1125. Extractors shall be provided with a drain pipe not less than 1½-inches in diameter connected direct to underground storage tanks or to the washer through an approved extractor pump with connections fitted with proper gate valves.

Brakes, if used, shall be so designed as to prevent the striking of sparks or developing excessive heat.

1126. All scouring or brushing operations shall be carried on in the dry cleaning room or in a separate fire-resistive compartment with wall openings to the outside only.

1127. The scouring or brushing table shall have a liquid tight top with a curb on all sides not less than one inch high. The top of the table shall be so pitched as to ensure thorough draining to a 1½-inch drain connection with liquid seal trap direct to underground tank. Metal tops, where used, shall be liquid tight, and permanently and effectively grounded. The table shall be secured to the floor or wall.

1128. The scouring or brushing table or scrubbing tub shall be so located as to ensure thorough and effective disposal of vapors through the ventilating system.

1129. Scrubbing tubs shall be secured to the floor and shall be provided with permanent 1½-inch trapped drains to underground tanks.

1130. Suitable "NO SMOKING" signs shall be posted.

1131. Approved extinguishing devices of a type suitable for use on oil fires shall be provided. These may be hand extinguishers and, if necessary, wheeled extinguishers, depending upon the size of the plant. In no case shall there be less than one foam type extinguisher of the 2½-gallon size at each entrance.

1132. Each dry dyeing room, dry cleaning room, and drying room and each washing machine and dry tumbler shall be equipped with an approved extinguishing system employing a fire retarding chemical or gas or steam. Supply pipes shall be of sufficient capacity to completely fill the room or space in less than one minute. Suitable operating valves shall be located outside the protected room; systems other than steam may be made to operate automatically. Such systems shall be continually available while the plant is in operation.

1133. All machinery and all containers of flammable liquids shall be rigidly fastened to a substantial foundation or to the floor, and shall be electrically grounded and all pulleys and belting in the dry cleaning room shall have grounded collectors or other suitable devices for the removal of static electricity. All revolving parts of machinery shall be grounded through the end of the shaft, in addition to grounding the shell of the container.

Part 12. Prevention of Dust Explosions

1201. The Bureau of Fire Prevention is hereby authorized to prohibit further operation in any grain elevator, flour, starch or feed mill or plant pulverizing cocoa, sugar, spices, coal, or other material producing flammable dusts where:

(a) Elevator legs, spouts, hoppers and other conveyors are not dust tight.

(b) Accumulations of dust are permitted in the interior of the building and a suitable dust removal system is not maintained.

(c) Open flame or spark producing equipment is permitted in rooms containing dusty atmospheres.

(d) Magnetic separators are not maintained ahead of all grinding or pulverizing machines.

(e) Operation is not under competent supervision.

(f) Machinery and parts of the crushing, drying, pulverizing and conveying systems are not adequately grounded.

Part 13. Hazardous Chemicals

1301. The chief of the Bureau of Fire Prevention shall be empowered to restrict the storage, handling and sale of chemicals and chemical compounds which are of a corrosive or poisonous nature, or which materially increase the fire hazard. Where kept in containers or packages usual to the retail trade, no general restriction shall apply other than shelving shall be substantial and storage shall be neat and orderly.

1302. For storage of hazardous chemicals in warehouses, factories and wholesale stores, material of an oxidizing nature, such as nitrates, nitrites, chlorates, etc., shall be stored in dry places, and the chief of the Bureau of Fire Prevention may require a separate room or building when the quantity stored constitutes a material hazard.

1303. Bulk storage or storage of two or more carboys of acid shall be outside in a yard or an enclosure, or properly protected on the roof of the building, or in a special room provided with a suitable container for the character of acid in case of breakage or leak.

1304. The chief of the Bureau of Fire Prevention may require the separation, or isolation of any chemical which is of a nature which in combination with other chemical or with organic matter may bring about a fire or explosion or may liberate a hazardous or poisonous gas.

Part 14. Combustible Fibres

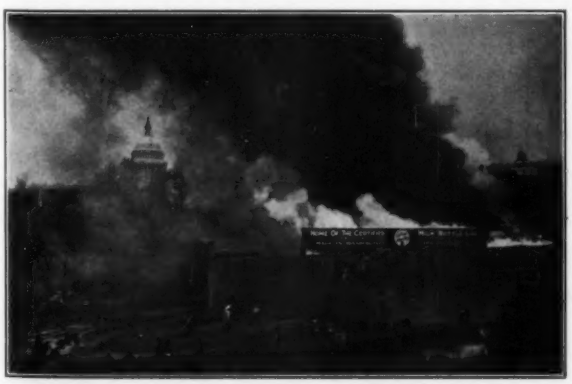
1401. The term combustible fibres shall include cotton, sisal, henequen, ixtle, jute, hemp, tow, cocoa fibre, oakum, baled waste, kapok, hay, straw, Spanish moss and excelsior.

1402. Loose fibres (not in suitable bales or packages), whether housed or in the open, shall not be stored within 100 feet of any building except as hereinafter specified.

1403. Not to exceed 100 cubic feet of loose combustible fibre may be kept in any building provided storage is in a metal-lined wooden bin, equipped with a self-closing metal-lined cover.

1404. Quantities exceeding 100 cubic feet of loose combustible fibre, but not exceeding 500 cubic feet, may be stored in rooms or compartments having floor, walls and ceiling constructed of material possessing sufficient fire resistance to withstand a standard one-hour fire test. For this purpose construction consisting of one-half inch approved asbestos or plaster board covered with sheet metal and securely fastened by 2-inch nails, will be considered satisfactory. Openings into such rooms or compartments shall be cut off from other parts of the building by approved fire doors.

(To be continued)



Visitors to the National Capitol See Smoky Fire

Separated from the Capitol in Washington, D. C., by a large vacant lot, fire raced through a dairy bottle cap works and caused dense black clouds to belch forth. In this photograph, the famous dome is just visible through the smoke.

Brownstown, Ind., Plans Department—Steps have been taken in Brownstown, Ind., for the formation of a volunteer Fire Department. The plan for operation was presented by a member of the State Fire Marshal's office.

FALSE ALARMS

—Drawing by "Art" Espey

A Back Draft

AMPLE WARNING

A battalion chief was out on department business and was driving south. A lady was driving north. The cars collided and both climbed out of their respective cars. The lady was very apologetic.

"It was all my fault," she said. "I was over on the wrong side of the road. I can't imagine what I was thinking about. It was entirely my fault."

The officer, very much a gentleman, stopped her with a courtly gesture.

"Not at all madam," he replied gallantly, "not at all. I saw you coming for half a mile back, and I could easily have turned off on at least two side roads and have gotten out of your way."

"Oh, no, dear. I'm sure he's a kind man. I just heard him say he put his shirt on a horse which was scratched."

SO SAY WE ALL

Scheming women on the lookout for husbands have just had their attention drawn by a Paris newspaper to a law passed in 1770 which has never been repealed. It reads:

"Anyone who entices into marriage a male subject by means of rouge or scent, or artificial teeth, or false hair, shoes with high heels, crinolines, or false hips, will be prosecuted for fraud, and the marriage will be declared null and void."

One girl in the arm is worth two in the rumble seat.

A BORN DIPLOMAT

A member of the department sometimes forgets that there are times when he is supposed to abide by the traffic rules. All would have been well if some new motorcycle policemen had not been added to the local force. An ambitious one hailed a motorist.

"Hey you! Didn't you hear me say, 'Pull over'?"

"Why, I thought you said, 'Good morning, Commissioner'."

"I sure did," said the cop. "Nice day, isn't it, Commissioner?"

Then there was the one about the flapper who went to the dentist, and when he said he was out of gas, she got out of the chair and walked home.

THE REMEDY

The two were seated in the train bound for a week-end outing at the seashore. Suddenly she turned from watching the passing scenery.

"Heavens! I forgot to turn off the gas when I left our apartment."

"That's all right," said hubby, "I forgot to turn off the bath water."

He was only 99.47% pure because he had once whistled a naughty song.

FULLY REHEARSED

Sullivan, who was a widower, was to be married to a lady who had been married before. When the invitations were printed and before they were sent to the boys of his company, Sullivan added the following message to make the invitations more personal:

"Be sure to come. This is no amateur performance."

Shower baths were invented by a fellow who got tired of being bawled out by his wife for leaving rings on the bathtub.

HE KNEW

News was coming slowly at a local editorial office, and a staff writer was sent down to interview some member of the Fire Department.

"You fellows," he said, "surely must have some kind of superstitions that you believe in. For example, do you consider it bad luck to walk under a ladder."

"I should say not," said the boy in blue. "Not if there's a pretty girl on it."

Then there was a Scotchman who was so close she slapped him.

ALL BOOKED UP

"I got a standing date every Saturday night."

"How come, Charley, are you engaged?"

"Gee, no! I'm the fire department inspector down at the opera house."

The hand that darns the socks is usually the one that socks the husband.

ALL INNOCENT

A cop rushed up to a gay automobile party shortly after it had crashed into a fire hydrant.

"Who was driving this car?" he shouted.

And a cheerful passenger, somewhat under the weather, replied:

"None of us. We was all on the back seat."

SHE MEANT WELL

Things had not been going well at the school. Young hopeful developed into a young scamp.

"After school I am going home and see your father," said the teacher.

"You can't," said the youngster. "He's on the day shift.

"Where does he work?"

"He's at the engine house."

And so after school she called at the station, and as a means of starting conversation asked:

"Are you the father of one of my children?"

"Shall we go outside for a little walk?"

"You boys have the funniest way of saying what you mean."

THE OLD ARMY GAME

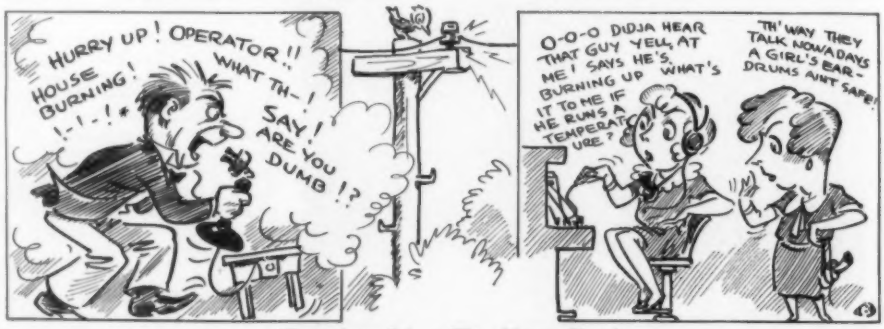
A beautiful girl, a cream colored roadster, an open stretch of concrete highway, a watchful motorcycle cop around the bend—the makings of a good short story.

The cop forced the driver to pull up at the curb.

"Where's the fire?" he asked. Just an original way of starting conversation that is being used by many policemen.

She looked up at him for a moment.

"In your eyes, you great big gorgeous patrolman."


HURRY UP! OPERATOR!! HOUSE BURNING! !-!-!*
WHAT TH-!
SAY! ARE YOU DUMB!?
O-O-O DIDJA HEAR THAT GUY YELL AT ME! SAYS HE'S BURNING UP WHAT'S IT TO ME IF HE RUNS A TEMPERATURE?
TH' WAY THEY TALK NOWADAYS A GIRL'S EAR-DRUMS AINT SAFE!

"Impedence" in a Fire Alarm Circuit

YOUR CATALOG PAGE

Fire Protection Equipment and Supplies

1 Acid Siphons.
2 Adaptors for Changing Hydrant Threads.
3 Acid Jars and Rings.
4 Aerial Ladders, Detachable.
5 Aerial Trucks.
6 Alarms, Siren, Electric.
7 Alarm Systems, Industrial.
8 Alarm Systems, Municipal Telegraphic.
9 Alarms, Thermostatic.
10 Asbestos Clothing.
11 Badges, Insignias, Buttons, etc.
12 Banners, Trumpets, etc.
13 Battery Jars.
14 Battery Zincs for Fire Alarm Batteries.
15 Bells, Fire Alarm, Municipal
16 Body Equipments.
17 Boxes, Gongs, Reels, Registers, Fire Alarm.
18 Brakes, Air.
19 Brake Linings.
20 Brooms, Fire.
21 Building Materials, Fire Retardant.
22 Caps, Firemen's.
23 Chains, Non-Skid Fire Apparatus.
24 Chassis for Fire Apparatus.
25 Chemical Engines and Tanks.
26 Chimney Fire Fusees & Compounds.
27 City Service Trucks.
28 Coats & Suits, Firemen's Quick Hitch.
29 Combination Chemical & Hose Cars.
30 Cutting & Welding Equipment Blow Torch.
31 Cutting & Welding Equipment, Electric.
32 Deluge Sets.
33 Door Openers, Fire Station, Automatic.
34 Extinguishers, Calcium Chloride.
35 Extinguishers, Carbon Dioxide.
36 Extinguishers, Soda-Acid.
37 Extinguishers, Carbon Tetrachloride.
38 Extinguishers, Foam.
39 Extinguishers, Powder.
40 Fire Boat Nozzle Equipment.
41 Fire Department Supplies, General.
42 Fire Exit Devices, Door Opening.
43 Fire Alarm Posts.
44 Fire Escapes, Portable.
45 Fire Escapes, Rigid.
46 First Aid Equipment.
47 Flare Lights.
48 Flashlights, Hand.
49 Foam Liquid for Extinguishers.
50 Gas Masks and Respirators.
51 Gas & Smoke Helmets.
52 Gasoline & Oil Handling Equipment.
53 Goggles, Firemen's.
54 Helmets, Metal, etc.
55 Hose Carts, Reels & Racks.
56 Hose Clamps.
57 Hose, Fire.
58 Hose, Chemical.
59 Hose Holders.
60 Hose Jackets.
61 Hose Standardization Tools.
62 Hydrant Draining Pumps.
63 Hydrants, Fire.
64 Jacks for Fire Trucks.
65 Jacks, Shoring & Prying.
66 Ladders, Fire.
67 Lightning Arresters.
68 Motorcycles, Fire Dept. Equipped.
69 Nets, Life.
70 Nozzles, Pipes & Misc. Brass Goods.
71 Packings, Pumps.
72 Pads, Pole Hole.
73 Paints, Fire Resisting.
74 Priming Ether, Motor.
75 Pumping Cars, Standard.
76 Pumping Cars, Foam.
77 Pumps, Fire Apparatus.
78 Pumps, Fire Service, Stationary.
79 Pumps, Portable for Fire Protection.
80 Record Books, Fire.
81 Relief Valves.
82 Reviving Apparatus, Oxygen.
83 Rubber Clothing.
84 Salvage Covers.
85 Searchlights.
86 Shingles, Fire Retardant.
87 Shirts, Firemen's Special.
88 Sirens, Apparatus & Chiefs' Cars.
89 Sliding Poles.
90 Soda & Acid Chemicals.
91 Spark Plugs, Fire Apparatus & Motorcycles.
92 Squad and other Auxiliary Cars.
93 Sprinkler Head Shut-Offs.
94 Sprinkler Supervisory Service.
95 Sprinkler Systems, Automatic, Foam.
96 Sprinkler Systems, Automatic, Water.
97 Steam Fire Engines.
98 Tarpaulins & Fire Blankets.
99 Tetrachloride Chemicals.
100 Thawing Equipment, Hydrant.
101 Tires, Fire Apparatus, Pneumatic Solid, Cushion and Non-Skid.
102 Tractors.
103 Traffic Clearing Systems.
104 Triple Combination Pumping Cars.
105 Uniforms.
106 Water Towers.
107 Wheels, Cushion.
108 Whistles, Fire Alarm, Compressed Air
109 Whistles, Fire Alarm, Steam.
110 Whistles, Fire Apparatus.
111 Wrecking Trucks.

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Nos. ..... Position .....

Nos. ..... Street .....

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For Information on Any Equipment Not Listed, Write on This Page or Use Separate Sheet

2-18

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Water Pressure Regulators

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Room and Bath from
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500 Rooms

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G

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ADVERTISING INDEX

Advertising Pays—in Fire Engineering

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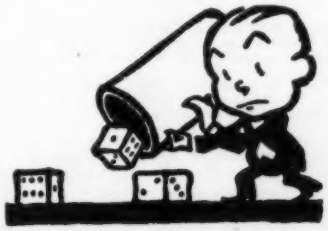

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Whenever you are considering the purchase of new equipment for your department, you'll find it will pay to write them about your requirements.

They are in position to be of real service to you, and they are always ready to cooperate with you in every way possible——if you will only let them.

Before you place orders for new equipment, be sure you have complete information and prices from all of them. You and your department will benefit by it.

The Publishers

ANOTHER SPECIAL FEATURE
the
COMPLETELY REVOLVING HEAD
of the MATHEWS MODERNIZED HYDRANT
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FACE nozzles in any direction easily and quickly—without shutting off the water and without digging or breaking the pavement. Simply loosen the bolts in the swivel flange—turn the nozzle section as you want it—tighten the nuts and it's all set.

Remember, too, that a broken Mathews cannot leak—that a broken barrel can be replaced easily without digging or breaking the pavement—that all maintenance or repair operations are easier, faster and less expensive on the Mathews. All operating parts are fully protected against frost and rust.

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CAST IRON PIPE AND FITTINGS
SAND SPUN (centrifugally cast) and PIT CAST GATE VALVES
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"CENTRAL"
CHIMNEY FIRE EXTINGUISHING FUSEES

Put out your
CHIMNEY FIRES
Quickly—Efficiently—Conveniently
Friction Cap Ignition
No Matches Required to Start the Fusee
In use by more than 200 Fire Departments

Puts out the fire by means of
FIRE EXTINGUISHING GASES

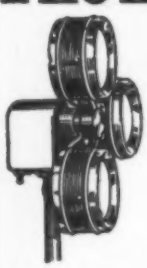
SAVES CHIMNEY FLUES FROM BEING CRACKED
By Water or Chemicals

Packed: Six Fusees in a box, Six boxes (36 Fusees) in a case.

Price per case.....$18.00
Price per box.....$3.00

Patentees and Manufacturers
CENTRAL RAILWAY SIGNAL CO., INC.
NEWTON, MASS.

The most Effective Combination of Warning Signals



BUCKEYE "ROTO-RAYS"—A silent signal of unquestioned effectiveness to protect your apparatus and your firemen against accidents.

At night these three revolving red signal lights make identification of the apparatus instantly possible as far as light is visible.

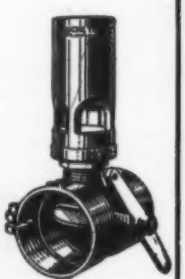
Insist upon having "Roto-Rays" on the next piece of apparatus you buy. It's just as essential as the whistle, the siren or the bell. Easily installed on apparatus now in service.

The Powerful BUCKEYE EXHAUST WHISTLE predominates in over 600 fire departments where serious traffic problems exist.

The shrill blast of a Buckeye Whistle effectively carries far ahead of the apparatus. Its sound is distinctive and extremely penetrating.

"Roto-Rays" and a Buckeye Whistle form the most effective combination of Warning Signals in existence.

Prices and full particulars upon request.



Buckeye Iron & Brass Works
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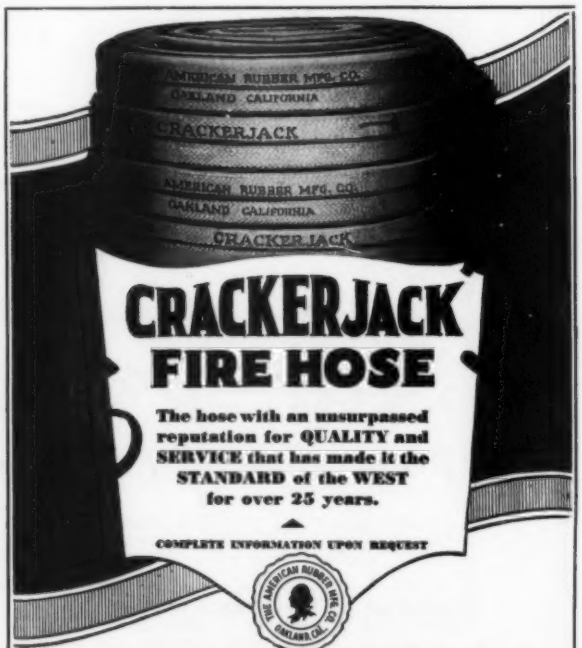
BUCKEYE
WARNING SIGNALS THAT WARN



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HOW ABOUT A GOLD BADGE FOR YOUR NEW CHIEF?

[or your old one, either, for that matter . . . . .]

NOTHING else you could do would please the chief quite as much as to present him with a new, gold, BRAXMAR BADGE. They can be bought for almost any price you care to pay. . . . But, regardless of how much you pay, you can rest assured that dollar for dollar you get a BETTER BADGE when you buy from BRAXMAR, makers of fine emblems for over fifty years.

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NEW CATALOG

BRAXMAR BADGES

C. G. BRAXMAR CO.

Formerly at 10 and 12 Maiden Lane

242 West 55th St., New York, N. Y.

THE OUTFIT IS COMPLETE—

PATENTED

Note neat manner in which ***INDIAN*** *carrying rack bolts to running board. Rack is official fire truck red.*

CITY and rural departments all over the U. S. have come to appreciate the immense value of Smith INDIAN Fire Pumps for fighting forest, grass, rubbish or roof and awning fires—in fact, any blaze that requires a portable, quick action extinguisher.

Using only clear water, and with a 5 gal. tank **curved in shape** so it won't slide around on carrier's back, you can easily imagine the many ways an INDIAN is used to advantage. Now the running board carrying rack makes the outfit complete. Get ready for those grass fires so numerous in spring—order your INDIANS now!

[*Agents Wanted!*]

WRITE for FOLDER and PRICES

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THE SMITH **INDIAN** FIRE PUMP

"Tank is Curved to Snugly Fit the Back and Pump Has No Leather Plunger to Give Trouble"

Reduce WATER DAMAGE & INSURANCE RATES WITH Shuredry SALVAGE COVERS

75% of the country's half-billion-dollar annual fire loss is traceable to WATER DAMAGE!

Those interested in reducing this enormous loss are beginning to realize the need for salvage work by the fire department, and are equipping their departments with

SHUREDRY WATERPROOFED SALVAGE COVERS

SHUREDRY covers are easy to handle and spread. Weigh less and cost less than rubber covers, and will not crack when left folded and stored in one position on the shelf.

Salvage work by the fire department is of vital importance to every citizen. It reduces water damage and insurance rates.

Write today for interesting data and samples and prices.

No. 2 SHUREDRY GREEN-BAK

covers have been subjected to a series of exhaustive tests by the National Board of Fire Underwriters and the Boston Manufacturers Mutuals Fire Insurance Companies, and have been passed by them for salvage work.

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